SounPacific
Environmental Services
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Subsurface Investigation Report of Findings, Monitoring Well Installation Report & Corrective Action Work Plan

(February 15-16, 2006 Drilling Event)

Dated: **June 8, 2006**

Site:

BO&T Company Office (BO&T Old Office)
211 Railroad Avenue
Blue Lake, California 95525

LOP # 12660

Prepared for:

Dave & Christina Fisch

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1.0 EXECUTIVE SUMMARY

At the request of Dave & Christina Fisch, the current property owners, SounPacific Environmental Services (SounPacific) prepared a *Subsurface Investigation Work Plan* (*Work Plan*) to further delineate the contamination that originated at the property located at 211 Railroad Avenue, Blue Lake, California (BO&T Old Office). Prior subsurface investigations identified soil contamination in the gasoline and diesel range in the area adjacent to the previous underground storage tanks (USTs). Methyl tertiary butyl ether (MTBE) was also detected in an offsite boring at 12 feet below ground surface (bgs). The impacted soil for the most part appears to be limited and restricted to the Site, except for the suspected sorbed phase MTBE plume, which extends offsite towards the southwest. Further investigation was necessary to define the lateral and vertical extent of the MTBE plume. Groundwater impacted with petroleum hydrocarbons extends in all directions from the Site except to the south and southeast of the Site. The lateral and vertical extent of the groundwater contamination was not completely defined to the east, north, west, and southwest of the Site. SounPacific implemented the drilling phase of the approved investigation on January 22, 2006 which was designed to delineate the lateral and vertical extent of the soil and groundwater contamination. This *Report of Findings* (RoF) presents the results of the investigation. A summary of completed work is outlined below.

- SounPacific conducted an onsite and offsite subsurface investigation at the BO&T Old Office to further delineate the lateral and vertical extent of the soil and groundwater contamination. The investigation consisted of drilling six (6) borings, five of which were converted into monitoring wells. Depth discrete soil and groundwater samples were collected to the extent feasible to determine the lateral and vertical extent of the soil and groundwater contamination.

- The direct-push borings converted into monitoring wells were incorporated into the on-going groundwater monitoring program. The purpose of the wells is to monitor the areas

of known contamination, further define the lateral extent of groundwater contamination, calculate groundwater flow gradient and direction, and monitor contaminant concentrations and contaminant migration over time.

- The results from the recent investigation, combined with the results from prior investigations have generally defined the extent of the impact to a depth of approximately 15 feet bgs at and adjacent to the Site. The residual soil impact is indicated to be less than 150 parts per million (ppm) Total Petroleum Hydrocarbons as gasoline (TPHg) which is located in the bottom and along the eastern edge of the former excavation. This residual soil contamination is below the shallow water table much or all of the year. The groundwater impact consists primarily of methyl tertiary butyl ether (MTBE) and is generally confined to the Site and to the west beneath E Street. The MTBE plume in the shallow groundwater is generally defined to non-detect (ND) to the north, to the northeast, to the northwest, to the southwest, and to the south. Based on the prior results, it is anticipated that the impact extends no more than 10 to 20 feet beyond where it has been detected, but is as yet not defined to ND.

- Due to the lack of deep soil sample recovery, it is unknown whether there are any subsurface barriers to vertical flow within the surface 30 feet. The vertical distribution of the plume cannot be accurately modeled without this information. However, the grab water sample from MW-7 at 8' contained 3.2 parts per billion (ppb) MTBE, while the sample at 20 feet contained 360 ppb. The stabilized water sample from MW-7 contained 139 ppb MTBE.

- Although the full horizontal extent of the shallow groundwater contamination has yet to be defined to ND, it has been determined that the highest concentrations of contamination are currently within the boundaries of the Site. Limited further investigation to the west of MW-7 would be necessary to fully define the impact; however, this is a residential area and further investigation in this direction may not be possible.

- In order to reduce the levels of groundwater contamination, particularly the MTBE, a corrective action is proposed at the Site. Based upon an evaluation of various suitable alternatives; it is proposed to use chemical oxidization as an active remedial option to address the contaminated groundwater. We additionally propose to use membrane interface technology (MIP) prior to developing the injection workplan. MIP will greatly assist to finely define any thin clay lenses or aquitards that might have been smeared by the previous investigations. Secondly MIP will help us better understand both the vertical and horizontal concentrations of the existing MTBE plume as well as other hydrocarbons, and we will also gain additional information on the soil types and geological formation which will greatly assist us in determining the optimal points for injection.

- Due to the limited amount of soil contamination in the vadose zone no active soil remediation is proposed, with any soil contamination that is present being flushed by the groundwater as it is treated.

2.0 INTRODUCTION

This document presents the RoF, including a Corrective Action Plan for the BO&T Old Office. This RoF was prepared after implementation of a Work Plan (WP) prepared for and approved by the Humboldt County Department of Health and Human Services: Division of Environmental Health (HCDEH) in correspondence dated August 31, 2005, which concurred with the WP.

2.1 Site Location

The Site is located in Blue Lake, California, with a physical street address of 211 Railroad Avenue, Blue Lake, California. The former station is located on the northeast corner of the intersection of Railroad Avenue and E Street (Figure 1).

2.2 Site Description

The Site is surfaced around the current structure with concrete and vegetation. Site improvements include a single story building. The main structure is located in the southern portion of the property with the entrance to the building facing south towards Railroad Avenue. A storage building is located adjacent to the eastern property line immediately north of the primary building. The Site is serviced by public utilities that are currently not in use. Surface water is controlled by storm drains (Figure 2).

2.3 Vicinity Description

The surrounding land use in the immediate vicinity is residential with a scattering of commercial properties. Residential properties lie immediately to the north, east, south, and west of the Site with E Street and Railroad Avenue adjacent to the west and south of the Site.

2.4 Topography

The Site is located approximately 90 feet above mean sea level (amsl). Site topography slopes gently toward the southwest (Figure 1). There is an elevation drop of approximately three feet from the eastern boundary of the property to the adjoining property. It is unknown at this time if this is a result of fill having been imported to the Site or it is a reflection of the natural topography.

2.5 Hydrogeologic Setting

The Mad River is located approximately one-half mile to the south and Powers Creek is located approximately one-quarter mile to the east of the Site. The City of Blue Lake is situated in the Mad River flood plain. Water level data from the past hydrologic cycle indicated that groundwater flow directions vary from southwesterly to westerly, to northwesterly, to northeasterly throughout the year. Groundwater levels vary from approximately 82 feet to 89 feet amsl (Table 4).

Franciscan Formation rocks form the basement rocks under Blue Lake. The Site reportedly is underlain by typical stratified river deposits of unknown depth consisting of sands, gravels, silts, and clays. Alternating and interbedded layers of silty clay, sandy silt, sandy gravel, clayey sand, and clayey silt reportedly underlie the Site. Variable thicknesses of river deposits were encountered during this and prior investigations. Groundwater movement beneath the Site appears to be strongly influenced by the nature of the deposits, fine-grained deposits of silts and clays being more restrictive to flow rates than coarse-grained deposits of sands and gravels. Additionally, a clay/sand mixture was imported to fill the excavation after tank removal. The clay/sand mixture may act as a barrier to both horizontal and vertical flow through the former excavation area.

2.6 Current Site Usage & UST History

SounPacific understands that the property is owned by Dave & Christina Fisch of Valley Springs, California. In the past, the Site was used as a retail gas station, and then as an office for BO&T. The main structure is currently used as an office for Fisch Environmental. On March 6, 1998, Beacom Construction of Fortuna, California (Beacom) removed two (2) 10,000 gallon USTs from the Site (Figure 2). According to Rich Pomrehn of BO&T, the tanks were used for both gasoline and diesel fuel bulk storage at various times. It is estimated that the tanks were installed around 1968. Therefore, the Site ceased functioning as a retail outlet for fuels after removal of the USTs.

3.0 ENVIRONMENTAL SITE HISTORY

Previous studies by Clearwater Group, Inc. (CGI) and SounPacific indicated the following historical information:

3.1 1998 UST Removal (CGI)

On March 6, 1998, Beacom removed the Site's USTs. Following the removal of the USTs, soil samples SW-1 through SW-4 were collected from the excavation sidewalls at depths between seven and eight feet bgs (Figure 3) and soil samples PI-1 and PI-2 were collected from beneath each end of the pump dispenser island at a depth of three feet bgs (Figure 3). Soil samples SW-3 and SW-4 collected from the eastern sidewall of the excavation were impacted with the highest concentrations of TPHg, benzene, toluene, total xylenes, ethylbenzene (BTXE), MTBE, TPH as diesel (TPHd), and TPH as motor oil (TPHmo) (120 ppm TPHg was the highest). The remaining samples reported low concentrations of these constituents. A groundwater sample (GW-1) was also collected from water pooled in the bottom of the excavation (Figure 3). The groundwater sample contained elevated concentrations of the above constituents; however, the groundwater sample was mixed with impacted soil at the time of collection. The analytical results are summarized in Tables 1 and 2.

3.2 2000 Subsurface Investigation (SounPacific)

In a letter dated January 14, 1999, HCDEH requested that a sensitive receptor survey be conducted within a 1,000-foot radius of the Site and a subsurface investigation be conducted to determine the extent of contamination beneath the Site. SounPacific conducted the subsurface investigation on October 24 & 25, 2000, in accordance with the approved CGI work plan, submitted July 9, 1999. The investigation consisted of the drilling and sampling of ten soil borings (B-1 through B-10). Nine of the borings were drilled to depths of 15 feet bgs, with soil samples being collected at five foot intervals. The remaining boring B-8 had samples collected at five feet bgs and eight feet bgs only (Figure 3). Soil analytical results reported petroleum hydrocarbons in five of the 23 soil samples analyzed, of which only one sample (B-5 @ 5") reported TPH levels in excess of 100 ppm. Boring B-5 was located at the Site of the former UST pit. Grab groundwater samples were collected from eight of the ten boreholes. Groundwater was impacted with petroleum hydrocarbons throughout the Site, with TPHg being reported at seven of the eight locations and MTBE being reported from all eight locations. The majority of contamination was reported adjacent to the former USTs and dispenser areas, with the sample from B-5 reporting TPHg at 35,000 ppb. The same sample also reported TPHd at 21,000 ppb. In addition, the contamination in the groundwater had appeared to have migrated to the southwest with Boring B-10, which was located approximately 30 feet from B-5, reporting TPHg and MTBE at 12,000 ppb and 20,000 ppb, respectively. The majority of the groundwater impact at the Site appeared to be MTBE. In addition, boring B-8 reported 2,900 ppb of lead in the groundwater. A summary of analytical results is presented in Tables 1 and 2.

In October 2000, SounPacific staff along with Public Works personnel from the City of Blue Lake conducted a door-to-door well survey. Three (3) domestic wells were discovered within a 1,000-foot radius of the Site, and their locations were documented in SounPacific's RoF, dated December 20, 2000. One domestic well (DW-1) located across E Street, to the west of the Site, was sampled during the third quarter 2003 (Figure 2). No results were reported at or above detection limits for any constituent sampled from this well.

3.3 2002 Subsurface Investigation (SounPacific)

In May 2002, SounPacific performed an additional subsurface investigation at the BO&T Old Office to determine the horizontal and vertical extent of the soil and groundwater contamination. Using a truck-mounted direct-push Geoprobe® drill-rig, six (6) soil borings (B-11 through B-16) (Figure 3) were drilled for the collection of soil and grab groundwater samples. In addition, three (3) borings were drilled for the installation of groundwater monitoring wells (MW-1 through MW-3). The locations of the borings and monitoring wells are shown in Figure 3. The work was conducted in accordance with the SounPacific *Subsurface Investigation Work Plan*, dated April 25, 2001. Soil samples were collected from the six (6) soil borings (B-11 through B-16) at four foot intervals for laboratory analysis. With the exception of sample SB-12 @ 12', no elevated concentrations of petroleum hydrocarbons were reported in any of the soil samples. In sample SB-12 @ 12', TPHmo was reported at 197 ppm; other TPH's were reported but did not exceed 20 ppm. No BTXE was reported in any sample. MTBE was reported in eight of the samples but only one sample (SB-12 @ 12') exceeded one ppm. Petroleum hydrocarbons were reported in four of the six grab groundwater samples, being reported to the north, in boreholes B-15 and B-16, and to the west, in boreholes B-11 and B-12. The most significant groundwater contamination in the gasoline, diesel, and motor oil ranges was from borehole B-12. Boring B-12 was located offsite, in the central area of E Street. It is evident, based on the location of B-12, based on results from borings between B-12 and the former USTs, and based on the UST contents, the TPHmo detected did not originate from the USTs. A summary of the soil and groundwater analytical results is presented in Tables 1 and 2. The groundwater monitoring wells were incorporated into a groundwater monitoring program, see Section 3.5. The analytical results from this investigation indicated that delineation of soil and/or groundwater was still necessary to the east, west, and south of the Site.

3.4 2005 Subsurface Investigation (SounPacific)

On January 11 & 12, 2005, SounPacific performed an additional subsurface investigation to further delineate the contamination to the east, west, and south of the Site, and to determine the vertical extent of the MTBE, if possible. The investigation consisted of the drilling and sampling

of nine (9) borings for the selective collection and analysis of soil and groundwater samples. The soil delineation was restricted to four (4) borings, with two (2) onsite soil borings (B-19 and B-20) and two (2) offsite soil borings (B-17 and B-18) (Figure 3). In these borings, soil samples were collected at a minimum of four foot intervals, lithologic changes, areas of obvious contamination, and at the soil/groundwater interface down to a maximum depth of 24 feet bgs. Laboratory analysis of the 28 soil samples collected reported the presence of petroleum hydrocarbons in only five samples. Four of the five samples reported TPHg concentrations less than 0.5 ppm, the remaining sample (B-20 @ 12'), reported TPHg at a concentration of 117 ppm (Table 1). It should be noted that this sample was collected approximately seven feet below the water table in the former UST excavation, from a boring that reported an elevated concentration of TPHg, and where both soil samples collected above (SB-20 @ 8') and below (SB-20 @ 15') it were non-detect for TPHg. With the exception of ethylbenzene being reported in a single sample, no BTXE was reported in any sample, and although MTBE was reported in seven of the 28 soil samples analyzed, all reported concentrations were less than one ppm. It has therefore been concluded that soil contamination has been defined and is limited to the Site of the former UST, generally at concentrations below 120 ppm, and generally beneath the shallow water table much or all of the year. The concentrations detected in the soil do not appear to be independently actionable.

Grab groundwater samples were collected from all nine (9) borings (B-17 through B-25) to determine the lateral extent of the groundwater plume. During the investigation, groundwater levels were observed at approximately 3-4 feet bgs and groundwater samples collected from the borehole locations were collected at the soil/groundwater interface. Laboratory analysis reported TPHg, TPHd, and TPHmo in three, two, and three of the samples, respectively, with the sample from B-20 being the only sample that reported TPH in each of the three ranges. The same sample also reported the highest concentrations, with 2,400 ppb, 9,440 ppb, and 3,620 ppb for TPHg, TPHd, and TPHmo, respectively. MTBE was reported at five of the locations, with the highest concentration being at location B-20 (1,490 ppb). The same location (B-20) was also the only location that reported BTXE, with benzene at 107 ppb. A summary of the analytical results from this investigation is presented in Tables 1 and 2.

3.5 Groundwater Monitoring (May 2002-January 2006)

Following the installation of the three (3) groundwater monitoring wells (MW-1 through MW-3) in May 2002, a groundwater monitoring program was initiated. The program consisted of quarterly sampling and analysis, along with monthly water level measuring for the first year (May 2002 through April 2003), after which water levels were recorded on a quarterly basis during the sampling event. Since the inception of the monitoring program, depth to groundwater in the three wells has ranged from two to 8.5 feet bgs, with an average depth of approximately 4.5 feet bgs (Table 4). Primary flow direction has fluctuated between the southwest and the northwest, with a hydraulic gradient of less than 0.05 feet per foot, see Figure 4. The configuration of the plume indicates that the true, annual, general groundwater flow direction is westerly. In addition, the leading edge of the plume appears to be less than 100 feet from the source area (the USTs). It appears the horizontal migration rate of MTBE is approximately ten feet per year or less, suggesting an overall annual gradient closer to 0.01 to 0.02 (Figure 4, Figure 5, Figure 6 Table 3, and Table 4).

At the inception of the groundwater monitoring program, all groundwater samples were analyzed for TPHg, BTXE, and fuel-oxygenates (including methanol and ethanol), TPHd, and TPHmo (Table 3). In April 2004, ethanol and methanol were eliminated from the analytical suite and in March 2005, at the recommendation of HCDEH, the analysis for TPHd and TPHmo was discontinued. TPHg and MTBE are the constituents of most concern at this site. Hydrocarbon constituents are most concentrated in well MW-3. Laboratory results have detected TPHg concentrations in wells MW-2 and MW-3 in all but two sampling events since the inception of the monitoring program. BTXE compounds have consistently been reported in well MW-2 since the inception of the monitoring program, and are likely present in MW-3 but are not being reported due to the high reporting limits (i.e. reporting limit of 5.0 ppb in MW-2, compared to 50 ppb in MW-3). BTXE have never been reported in well MW-1. MTBE concentrations have been reported in every well during every sampling event thus far, with the highest concentrations in monitoring well MW-3. TAME concentrations have been reported during several quarterly events in wells MW-2 and MW-3, but only three times in MW-1, where it was at or slightly above the reporting limit. Prior to being discontinued, TPHd had infrequently been reported in

MW-1, MW-2 and MW-3, and TPHmo has never been reported in wells MW-1 and MW-3, and was only detected during the well installation sampling event in well MW-2. The historical groundwater elevations are presented in Table 4, with the historical analytical data in Table 3.

4.0 RECENT INVESTIGATION

Previous subsurface investigations have identified soil contamination in the gasoline and diesel range in the area adjacent to and beneath the previous USTs. Subsequent investigations confirmed that the soil contamination is restricted to this area, where the concentrations are generally low (less than 120 ppm of TPHg) and do not appear to require any independent remedial action. The recent drilling program occurred on February 15 and 16, 2006. *Soil samples collected during the recent drilling program did not reveal the presence of any significant impact at the drilling locations (Table 1).*

Groundwater samples from the initial three monitoring wells (MW-1, MW-2, and MW-3) have all been impacted, primarily by MTBE; therefore, the lateral extent of the groundwater contamination, as determined from initial monitoring wells, was undetermined. In addition, the vertical distribution of any contamination of the groundwater, particularly by MTBE was undefined. The recent drilling program served to generally define the horizontal extent of the groundwater impact beneath and in the vicinity of the Site.

4.1 Direct-Push Drilling Procedures

All borings were initially drilled with the use of a truck-mounted direct-push Geoprobe® drill-rig. Depth to water and soil type generally rendered soil sampling below a depth of eight feet infeasible. The borings were drilled to a depth of approximately 30 feet bgs.

4.2 Soil Collection Procedures

The original intent of the program was to collect continuous soil samples down to the soil/groundwater interface to obtain a detailed lithologic description of the subsurface soil, after which the soil would be sampled discretely every 10 feet down to a total depth of 30 feet bgs. Unfortunately, the water table was extremely shallow and combined with the type of material present and the possibility of carrying contamination vertically down the borehole, soil sampling was limited to the upper eight (8) feet.

All borings were drilled with a truck-mounted hydraulic drill-rig using continuous core direct-push drilling by a State-licensed (C-57) driller. Soil samples were collected and retained at a minimum of four foot intervals to the extent feasible. All soil samples were visually inspected in the field, described, and screened for organic vapors using an organic vapor analyzer (OVA). A minimum of one (1) soil sample was selected for laboratory analysis from each boring. Soil sample field screening was conducted by half filling a sealable plastic bag with the soil sample, allowing any vapors to collect in the bags headspace, and after a minimum of five minutes inserting the OVA probe into the bag's headspace for the analysis. All OVA readings were recorded on the boring log. The soil samples were inspected and documented by the field geologist for lithology and soil condition, and classified using the Unified Soil Classification System guidelines. Information is recorded on the boring logs (Appendix A).

4.3 Soil Sampling Methods

A total of sixteen soil samples were retained for laboratory analysis. Each sample was labeled, stored in appropriate sample containers, placed in coolers with ice, and kept at temperatures at or below four degrees Celsius for transportation under chain-of-custody to a state certified laboratory for analysis (Appendix B).

Soil samples were collected following standard EPA guidelines. Samples selected for laboratory analysis were analyzed for TPHg, BTXE, and fuel-oxygenates by **EPA Method 8260b**. All

laboratory analysis was conducted by a state certified laboratory on a normal turn-around time (TAT).

4.4 Grab Groundwater Collection Procedures

Grab groundwater samples were collected from borings MW-5, MW-6, MW-7, MW-8, and B-26. With the exception of location MW-5, multiple depth samples were collected to evaluate the vertical distribution of any contamination from each location. At all locations a grab groundwater sample was collected at depths of eight feet bgs with samples collected at 20 feet bgs in MW-7, MW-8, and B-26, and at 30 feet bgs in MW-6 and MW-8. All grab groundwater samples were collected from either the geoprobe discrete sampler with a stainless steel screen, or from a temporary well point.

4.5 Grab Groundwater Sampling Methods

Grab groundwater samples were collected by one of two methods. All shallow grab groundwater samples were collected by placing a temporary well point into the soil boring. The temporary well point consisted of a small diameter (typically one (1) inch) PVC screen that was inserted to the sampling depth of eight feet bgs, where the sample was collected from the well point using a small diameter disposable bailer. This method was not desirable below the shallow water table as the pipe filled with water during insertion and before reaching the desired sampling interval. Therefore, for the deeper samples, the Geoprobe® discrete sampling system was used. The Geoprobe® hollow rod was advanced to the selected sample depth, where the rod was pulled back exposing a stainless steel screen through which the groundwater at that depth entered the screen pipe. Tubing with a Waterra check valve was typically inserted down the rod. Simple up and down motion of the tubing was sufficient to collect a water sample of sufficient volume to fill all the sample containers. After sample collection, the rods and screen were removed, decontaminated, and the operation was repeated at a deeper depth, when required.

All collected groundwater samples for laboratory analysis were labeled, stored in laboratory supplied appropriate sample containers, placed in coolers with ice, and kept at temperatures at or

below four-degrees Celsius for transportation under chain-of-custody documentation to a state certified laboratory for analysis. Based upon current groundwater sampling and analysis activities, all grab groundwater samples were analyzed for TPHg, BTXE, and five fuel oxygenates following **EPA Method 8260b**. All laboratory analysis was conducted by a state certified laboratory on a normal TAT.

4.6 Monitoring Well Construction

Five (5) groundwater monitoring wells (MW-5, MW-6, MW-7, MW-8, and MW-9) were installed during this investigation. Following the completion of the soil and any grab groundwater sampling with the direct-push system, each boring in which a monitoring well was installed was opened-up using a truck-mounted drill-rig equipped with eight inch diameter hollow-stem augers. Based on historical data, the final well depth of each new well was thirteen feet bgs.

Each monitoring well was constructed of two-inch diameter, clean, flush-threaded, PVC well materials. The well screen was ten feet in length, consisted of 0.02 inch machine cut slots, and extended from three to thirteen feet bgs (Figure 7). A filter pack of #2-12 sand was placed in the annular space between the well casing and boring walls, and extended from the bottom of the boring to approximately 0.5 foot above the screened interval. Following placement of the sand filter pack, each well was surged with a surge block in an effort to settle the sand pack. Once field observations indicated that the sand pack had settled, the filter pack was sealed by 1.5 foot layer of hydrated bentonite. The remaining annular space was filled with concrete. The surface construction of the wells included a locking, waterproof, flush-mounted, traffic-rated cover. Monitoring well construction details are included in Figure 7.

Following the installation of the wells, a licensed surveyor determined the elevation and location of each monitoring well at the Site to a status datum point according to Geotracker specifications as required by the HCDEH. All data is entered into the Geotracker database using the new x, y, z coordinate system as required by State law.

4.7 Monitoring Well Development and Groundwater Sampling

Following installation, the new wells (MW-5, MW-6, MW-7, MW-8, and MW-9) were allowed to settle, after which they were developed using a purge pump and surge block. Well development continued until all fines had been removed and no turbidity was visually present. A minimum of ten well volumes was removed during the developing process. During development, the pH, conductivity, and temperature of the extracted water were tested at regular intervals to verify that representative samples of formation groundwater were present in the well. Following well development, the wells were allowed to recharge prior to sampling. The first sampling event of the new wells (Well Installation Sampling Event) was conducted on March 10, 2006. Stabilized groundwater levels were measured during this event. Three (3) well volumes of groundwater were purged from each well prior to sampling, during which pH, conductivity, temperature, and turbidity were tested (Appendix E) for signs of representative formation waters. Groundwater samples were collected from the wells with disposable PVC bailers, stored in appropriate containers (i.e. VOA vials), labeled, placed in coolers on ice, and maintained at or below four degrees Celsius, for transportation to the state certified laboratory under chain-of-custody documentation for analysis. No groundwater samples were collected from the original three monitoring wells (MW-1, MW-2, and MW-3) at this time.

4.8 Groundwater Monitoring Program

Following the initial sampling, the new wells were incorporated into the current groundwater monitoring program. The groundwater monitoring program will continue to consist of water level gauging and the collection of groundwater samples for laboratory analysis on a quarterly basis. Each monitoring event will continue to consist of measuring the depth to groundwater, purging the well with a minimum of three well volumes, and collecting a groundwater sample from the well for laboratory analysis. During purging activities, the extracted well water will be tested for pH, conductivity, temperature, and clarity for signs of representative formation waters. Groundwater samples will be collected from the wells with disposable PVC bailers or a peristaltic pump, stored in appropriate containers (i.e. VOA vials), placed in coolers with ice, kept at or below four degrees Celsius, and transported to a State of California certified laboratory

under appropriate chain-of-custody documentation for analysis. The next quarterly monitoring event is scheduled for July 2006.

4.9 Groundwater from Monitoring Wells Analytical Methods

Groundwater samples from the monitoring wells were collected following standard EPA protocols. Based upon historical analytical results, all groundwater samples were analyzed for TPHg, BTXE and fuel-oxygenates following **EPA Method 8260b.** All laboratory analysis was conducted by a state certified laboratory on a normal TAT.

4.10 Investigation Derived Wastes

All drill cuttings and groundwater extracted from wells and boreholes were stored onsite in D.O.T. 17E/17H 55 gallon drums. Laboratory analyses are being used to establish proper disposal procedures for cuttings and purge/development waters. Rinsate generated from steam cleaning drilling, development, and sampling equipment was contained in a portable wash basin and pumped into 55-gallon drums for storage before disposal.

5.0 ANALYTICAL RESULTS

5.1 Soil Analytical Results

Sixteen (16) soil samples were submitted for laboratory analysis. Laboratory analytical results did not report any TPHg or BTXE in any of the samples. One soil sample (MW-6 @ 8') reported MTBE at a concentration of 0.0144 ppm, although all the remaining samples were ND for MTBE. No other fuel oxygenates were reported in any of the soil samples (Table 1 and Appendix B).

5.2 Groundwater Analytical Results from Borings

Ten (10) grab groundwater samples were collected from five locations. TPHg was reported in

two samples, with 292 ppb in samples MW-5 @ 8' and 243 ppb in MW-7 @ 20'. No BTXE compounds were reported in any of the ten samples. MTBE was reported in four samples, of which two samples reported levels less than four ppb. The other two samples that reported MTBE, were the same samples that reported TPHg, with MTBE at 500 ppb in MW-5 @ 8' and 360 ppb in MW-7 @ 20'. The same two samples that reported TPHg and MTBE, also reported low levels (<two ppb) of TAME (Table 2 and Appendix B).

5.3 Groundwater Analytical Results from Monitoring Wells

Groundwater samples were collected for laboratory analysis from the five (5) new monitoring wells following suitable development and purging. Wells MW-5 and MW-7 reported TPHg at concentrations of 82.7 ppb and 51.8 ppb, respectively. No BTXE was reported in any of the five wells. Four wells reported MTBE at concentrations that ranged from 2.5 ppb (MW-8) to 122 ppb (MW-5) and TAME was also reported in MW-4 (one ppb). Lead was reported in all five water samples at typical background concentrations ranging from 21 to 51 ppb (Table 3 and Appendix C). It is noted that where MTBE is present at a concentration less than 50 ppb, the TPHg is ND. Where MTBE is detected at a concentration greater than 50 ppb, both TPHg and MTBE were reported at approximately the same concentration.

6.0 SITE CONCEPTUAL MODEL

At this point in time there are insufficient data points to generate a complete site conceptual model for both the vertical and horizontal impact from the release. Nevertheless, we have modeled the following information for the Site.

Soil sampling at the Site has indicated that the extent and degree of soil contamination at the Site are minimal. Soil contamination is limited to the margins of the former USTs, with the highest detected concentration of TPHg soil contamination being 120 ppm, which is only slightly above a clean-up standard of 100 ppm. Therefore, no independent soil remediation is planned, with the clean-up standard being achieved over time through combination of natural attenuation and groundwater remediation.

The shallow subsurface explored to date appears to consist of silt and silty sand with no identified aquacludes or aquatards having been identified within the upper twenty feet (Figure 8). The shallow water table is unconfined and appears to fluctuate between three and eight feet bgs with the seasons. There is minor residual soil contamination around and beneath the former UST location which is bleeding off into the groundwater as the water level rises and falls. Sufficient contamination remains such that no appreciable decrease in the degree of groundwater impact has been observed. However, a decrease should begin to occur as only a limited amount of impacted soil has been identified. Soil sampling at the Site has indicated that the extent and degree of soil contamination at the Site are minimal, being limited to the margins of the former USTs, with the highest detected concentration of TPHg soil contamination being 120 ppm, which is only slightly above a clean-up standard of 100 ppm. Therefore, no independent soil remediation is planned, with the clean-up standard being achieved over time through combination of natural attenuation and groundwater remediation.

Groundwater contamination is a different story and is more widespread, covering an area approximately 60 feet wide and 140 feet long. The vertical extent appears to be confined to the upper 15 to 20 feet but is still yet to be adequately defined. MTBE is the primary contaminant of concern. Although, groundwater impacted MTBE has migrated offsite, the highest contaminant concentration is confined to the Site in the vicinity of the former USTs (Figure 6). Therefore, to prevent the further offsite migration of the contamination and with the objective of reducing the contaminant concentrations in the shallow groundwater beneath the surface of the Site, it is proposed to implement a corrective action plan, which can be modified through time to address the full extent of the groundwater contamination plume, after it has been fully delineated.

The currently identified distribution of the contaminants suggests an overall westerly groundwater flow direction at a relatively flat annual gradient of 0.01 to 0.02 feet/foot. As water levels rise and fall during the seasons, short-term groundwater flow direction may vary by up to 180 degrees, while the gradient may temporarily increase by up to an order of magnitude. Again, the extent of the impact and the location of the impact clearly demonstrate that these conditions are transitory and that overall, the plume is not migrating rapidly away from the Site.

7.0 REMEDIAL ALTERNATIVES

7.1 Remedial Introduction and Methods

This section presents a review of remedial alternatives that may be applicable to the Site to meet the Sites remedial objectives. The alternatives were developed based upon proven technologies, engineering judgments, and professional experience.

Subsurface evaluations at the Site have determined that soil contamination at the Site is minimal, with the limited soil contamination being restricted to the area directly adjacent to the former USTs. However, groundwater contaminated with petroleum hydrocarbons is widespread across the Site, and has migrated offsite, reaching the west side of E Street and beneath Railroad Avenue to the south. It is therefore proposed to MIP the Site prior to any type of active remediation to determine if the soils and the groundwater need to be treated and where the treatment points should be located and at what depths. Many remedial options were discussed and debated and are briefly described in this report. Based on the MIP results some active remediation may be used to address the low levels of secondary source material in the soil in a few locations but for the most part any remaining soil contamination will be addressed by groundwater flushing of the soils and natural attenuation.

A factor in the consideration of any remedial action will be site constraints at the Big Oil and Tire Old Office facility. These include:

- Public Right-of-Ways (E Street, Railroad Avenue, and Alley to the north of the Site).
- Buildings (Residence on property).
- Private Property
- Underground Utilities.

The following four (4) potential remedial action alternatives are being considered:

1. Pump and Treat, with disposal to the sanitary sewer.
2. Air Sparing.

3. Hydrogen Peroxide Injection.
4. No Action, with Monitoring

Any active remediation would be conducted until remedial objectives have been met or until it was shown the remedial action was no longer practical. Following the remedial action, groundwater monitoring would be conducted for a minimum of one (1) year.

7.1.1 Alternative 1: Pump and Treat

Under Alternative 1, a pump and treat system (PTS) would be installed to address the groundwater contamination, which would also assist in flushing the soils of any residual contamination. Without conducting some aquifer characterization, it is unknown how many extraction wells would be required to address the contamination, but based on the onsite distribution of the groundwater contamination it is expected that a minimum of six (6) extraction wells would be required to address the onsite contamination. In addition, offsite extraction wells would be required on the public right-of-way, which would require special permitting from local traffic and transportation agencies. Each well would be a minimum five-inch diameter and to a depth of 30 feet bgs to address the contamination which has vertically migrated. Groundwater would be pumped from the wells, via buried double-walled piping into a holding tank, where any free product would be allowed to separate and could be removed. After which any contaminants would be separated, into the vapor phase, from the extracted groundwater with an air stripper. The resulting vapors if warranted would be treated prior to being discharged to the atmosphere. The treated groundwater would be polished with granular activated carbon (GAC) and discharged into the onsite sanitary sewer. Based upon extracted contaminant levels it may be possible to treat the groundwater with GAC only, or if post air stripper concentrations are considered low enough, GAC polishing may not be required. An enclosure would be constructed to house the holding tank and other treatment equipment protecting both the public and the equipment. Outside of the enclosure all piping from the well and to the sanitary sewer would be underground. This system would provide hydraulic control at the Site which would minimize the further spread of contamination migrating.

7.1.2 Alternative 2: Bio-Sparging

Alternative 2 would require the installation of a sparging system across the contaminate plume. Biosparging is an in-situ remedial technology that uses indigenous microorganisms to enhance the biodegradation of the contamination. Sparge wells would be installed throughout the area of the plume on a grid pattern on 20 feet centers, which would allow the injection of a reactive compound, e.g. ozone. Based on this spacing and the area of the plume, approximately fourteen onsite sparge wells would be required, plus another five (5) on the west side of E Street. Additional injection wells, approximately ten, would ideally be placed on E Street and Railroad Avenue, however due to access concerns approval of the installation of these wells would likely be difficult. The sparge wells would be constructed in a manner that would allow the reactive ozone to be sparged into the groundwater. The injected ozone would react with the long chain hydrocarbons reducing the hydrocarbon contamination into carbon dioxide, water, and heat within the groundwater and the capillary fridge, and enhance the biodegradation of the remaining contamination. On the Site, the injection would be conducted with an automatic system; however, any offsite sparge wells would likely require manual injection.

The presence of the shallow groundwater (historically less than eight feet bgs) would require any injection to be conducted at relatively low pressures, in an attempt to minimize mounding of the groundwater, which could have an effect on surface paving, underground utilities, and surface structures. The shallow groundwater would also minimize any vapor extraction. Prior to installing any biosparging system, a pilot test would be required to determine the feasibility of biosparging. This would include determining the groundwater chemistry and if indigenous bacteria and adequate nutrients are present.

7.1.3 Alternative 3: Chemical Oxidization/Injection

Alternative 3 involves the injection of an oxidizing material, i.e. hydrogen peroxide and sodium persulfate, into the hydrocarbon contaminated groundwater causing the petroleum hydrocarbons to convert to carbon dioxide, water, and heat; hence, reducing the hydrocarbon concentrations in the groundwater. Another bi-product may be oxygen, which would enhance the future natural biodegradation of the contamination. This process can often achieve remedial objectives in a

relatively short time frame (months as apposed to years). Injection of the chemical oxidizer can be conducted via either permanent wells or temporary probe points. The wells or points would be positioned based on information gathered during the MIP investigation and then placed in a grid pattern on approximately 10-feet centers throughout the contaminant plume. The actual spacing may be required to be altered based on the field reactions observed via temporary well points, chemical oxidizer and concentration being used, contaminant concentration, and subsurface conditions. Based on this spacing and the area of the plume approximately 20 onsite injection points would be required, plus another 20 offsite injection points. The general idea will be to inject from the outside in to prevent pushing or mounding the contamination away from the current location.

Due to the temporary nature of any offsite injection points, minimal permitting from traffic agencies would likely be required. Onsite, where the higher levels of contamination are present, it would be possible to install more permanent injection wells, where injection could be conducted on a regular schedule with an automatic system. All offsite injection points would require manual injection. The injection wells/points would be constructed in a manner that would allow an oxidizing chemical, normally in liquid form, to be repeatedly injected into the groundwater. In addition, by conducting the injection process at multi-depths at the same location, it is possible to address the contamination that has vertically migrated. Chemical concentration mixes will be based on bench testing and pilot testing to help determine natural soil demands (usually 1 to 5%) but initially will be based on a 13% solution of Hydrogen Peroxide and equal parts (by molar mass) Ferrous Iron chelate.

The presence of the shallow groundwater would require any injection of the oxidizer to be conducted in low concentrations to control the reaction and possible near surface off-gassing of explosive gases, and at relatively low volumes (1 to 4 gallons a minute) to minimize mounding of the groundwater which could affect the surface paving, structures, and any underground utilities. The shallow groundwater would also minimize the potential for vapor extraction. Prior to installing any chemical oxidizing system, a pilot test would be conducted to determine the feasibility of the process and groundwater quality, i.e. pH.

7.1.4 Alternative 4: No Action with Monitored Natural Attenuation

Alternative 4 would not involve any active groundwater remediation, but relies on passive natural attenuation processes to achieve the Site-specific remediation objective. The current groundwater monitoring program would be continued, but would include monitoring for parameters such as: Dissolved Oxygen (DO), Dissolved Carbon Dioxide (DCO2), and Oxidization-Reduction Potential (ORP). DO, DCO2, and ORP are all monitoring parameters of bioremediation. This alternative is low cost, but conducted on a long-term basic, i.e. years.

7.2 Analysis of Remedial Alternatives

This section evaluates the various remedial alternatives that meet the remedial objectives. The remedial objectives are to reduce the levels of petroleum hydrocarbons in the groundwater to levels that meet the regions "Water Quality Objectives". This may be drinking water standards or levels than eliminate the potential of environmental liability, i.e. impacting a drinking water well or creek.

7.2.1 Screening Criteria

The remedial alternatives are evaluated in accordance with established criteria that includes

- Regulatory compliance: does it address the requirements of HCDEH and the RWQCB.
- Long Term Effectiveness: meets long term remedial goals.
- Provides sufficient overall protection to human health and the environment.
- Reduction in toxicity, mobility, and concentration.
- Schedule: Can the work be implemented and remedial goals be met in an acceptable time frame.
- Cost: Is the cost (capital and operational) reasonable to meet the goals of the remediation.

Each of the remedial alternatives are ranked according to these criteria, with the most favorable or best alternative being assigned a value of four (4), and the least favorable alternative being assigned a value of zero (0).

7.2.2 Evaluation of Alternative based on Screening Criteria

7.2.2.1 Regulatory Compliance

The lead regulatory agency, HCDEH, is requiring that that corrective action be implemented at the Site. Alternatives 1, 2, and 3, will met that requirement; however, Alternative 4 is not particularly efficient at meeting the objective. Therefore, Alternatives 1, 2, and 3, have been rated with a value of 3, whereas Alternative 4 is assigned a value of zero (0).

7.2.2.2 Effectiveness

Alternative 1 is considered effective as it would remove the groundwater contamination and it would provide a barrier to prevent further offsite migration of any contamination. However, due to the distribution of the contamination, a large area would require to be dealt with and difficulties could arise in addressing the vertical distribution of the contamination. Therefore, Alternative 1 has been given a value of 1.5.

Alternative 2 (Bio Slurping) is considered to be effective as it would significantly increase the volume of oxygen and nutrients in the subsurface which would enhance biodegradation of the contamination. In addition, some oxidization of the contamination would occur. Therefore, Alternative 2 has been given a value of two (2).

Alternative 3 (Chemical Oxidation) is considered to be effective as it has the potential to accelerate the groundwater remediation by the rapid oxidation of the hydrocarbon contamination. With the combination of automatic injection on the property and periodic injection in the area of the offsite contamination, it would be possible to address the full extent of the plume. Therefore, Alternative 3 has been given a value of three (3).

Alternative 4 (No Further Action, with Monitoring) is currently ongoing. The monitoring has shown some general reduction in the levels of petroleum hydrocarbons in the groundwater; however, it indicates that Alternative 4 is not quickly effective in the removal of contamination or enhancing bioremediation. Therefore, Alternative 4 has been given a value of one (1).

7.2.2.3 Overall Protection

Alternatives 1, 2, and 3 will all treat the groundwater beneath the Site, with Alternative 1 involving external treatment, whereas Alternative 2 and 3, would conduct the remediation in-situ. All three Alternatives could efficiently treat both the onsite and offsite groundwater contamination; however, the installation of the Alternative 1 option would be the most difficult. The extraction of the groundwater, and aboveground storage and treatment, in Alternative 1 would create some potential exposure; however, it would likely be minimal. Alternatives 2 and 3 would have some minimal exposure during the during sparge/injection well installation, although greater exposure will occur during the operation of the alternatives, with the handling and injection of chemicals and the potential of off-gassing. Alternative 4 provides minimal protection from the continued migrations of contaminants other than natural attenuation unless it comes in contact with a sensitive receptor when there is no increase to the current level of protection. Therefore, Alternative 1 has been given a value of two (2), Alternatives 2 and 3 have both been given a value of 2.5, and Alternative 4 has been given a value of one (1).

7.2.2.4 Contamination Reduction

Alternatives 1, 2, and 3, would all reduce the levels of petroleum hydrocarbons in the groundwater. However, the ability to implement and maintain Alternative 1 and 2 may hinder the rate of contaminant reduction. Alternative 4 will not reduce toxicity, volume, or mobility of contaminants except by natural attenuation. Therefore, Alternatives 1 and 2 have been rated with a value of two (2), Alternative 3 is rated at three (3), and Alternative 4 has been given a value of zero (0).

7.2.2.5 Implementation

Alternatives 1, 2 and 3 are the most difficult to implement, due to the extent of the contamination, permitting, capital equipment requirements, and training associated with the handling of chemicals. Alternative 1 would require significant trenching in areas of public right-

of-ways, and along with Alternative 2 would require an ongoing Operation and Maintenance program. Initially, Alternative 3 would require an increased sampling regiment but after a few months re-injection would be evaluated. Additionally, Alternative 3 would not require extensive long term operation and maintenance (O&M). Alternative 4 would be the easiest to implement due to no activities other than the ongoing monitoring would be required. Therefore, Alternatives 1, 2, and 3, are assigned values of 1.5, two (2), and three (3), respectively, and Alternative 4 is assigned a 3.5.

7.2.2.6 Schedule

Alternative 4 is currently ongoing, and hence would require the least amount of time to implement, although with this alternative groundwater monitoring and reporting could be conducted indefinitely. As a result, Alternative 4 has been given a value of one (1). Alternative 1, 2, and 3 would take approximately six (6) months to permit, rent or purchase capital equipment, install, and implant. In addition, aquifer characterization testing would be required for Alternative 1, and pilot tests would be required for Alternative 2 and 3, prior to starting the formal permitting. Until a system starts to operate and some basis monitoring is conducted it is difficult to estimate the operation time to completion. However, based on general experience, it is possible that onsite treatment by Alternatives 1 and 2 could be completed in two (2) to three (3) years, whereas Alternative 3 could be completed within weeks or months. Alternatives 1, 2, and 3, would all require a minimum of one year of groundwater monitoring, once the treatment has been completed. Therefore Alternatives 1, 2, and 3, are assigned values of two (2), two (2), and three (3), respectively.

7.2.2.7 Cost

The Table below summarizes the estimated capital and O&M costs to implement, maintain, and operate each of the Alternatives. In addition to these costs, Alternatives 1, 2, and 3 would require one year of groundwater monitoring once remedial objectives have been met.

Alternative	Method	Duration (Years)	Cost (Estimates)	Score
1	Pump and Treat	2 - 3	$ 180,000.00	2
2	Biosparging	2 - 3	$ 300,000.00	1.5
3	Chemical Oxidation	0.5	$ 200,000.00	2
4	No Action with Monitored Natural Attenuation	10 +	$ 100,000.00	3

7.3 Proposed Remedial Alternative

A summary of all the scores is presented in the table on the following page. Alternatives 1, 2, and 3, all meet the regulatory compliance criteria. Alternatives 1, 2, and 3 would address the contamination both on and offsite. A review of groundwater monitoring data does indicate that some natural attenuation will occur in all methods. Alternative 4 would require an extended period of time and the ongoing groundwater monitoring does not indicate an acceptable rate of natural attenuation. Alternative 2 and 3 would both address the contamination, and can be applied to the offsite contamination with minimal impact, however, Alternative 2 would likely require more time, and hence result in a higher total cost. Based on these facts and the overall score, as presented in the table, Alternative 3 is the choice alternative.

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Criteria	Pump and Treat	Biosparging	Chemical Oxidation	No Action w/Monitoring
Regulatory Compliance	3	3	3	0
Effectiveness	1.5	2	3	1
Overall Protection	2	2.5	2.5	1
Contamination Reduction	2	2	3	0
Implementation	1.5	2	3	3.5
Schedule	2	2	3	1
Cost	2	1.5	2	3
Overall Score	14	15	19.5	9.5

Alternative 3, Chemical Oxidation, is a proven technology for the degradation of petroleum hydrocarbons, and is ranked to be the most effective option overall. Additionally, groundwater monitoring of all existing wells will be continued. However, prior to any full scale implementation of chemical oxidation, a bench test and pilot test would be need to be conducted that would include collecting further subsurface data, i.e. lithological and contaminant distribution, using technologies such as MIP, to determine probe points and depths throughout the Site.

7.4 Schedule

Within eight weeks of approval of the Corrective Action Plan (CAP), SounPacific will prepare a MIP, bench test, and Pilot Test Remedial Work Plan. Once approved, the bench test and pilot test will be implemented within six weeks, providing the availability of equipment and lab scheduling on bench testing soil demands. On the assumption that the pilot test will be successful, a Remedial Action Work Plan will be prepared which documents a detailed design of the proposed remediation and the monitoring that will occur to document the corrective action of the groundwater.

8.0 CERTIFICATION

This Work Plan was prepared under the direct supervision of a California registered geologist at SounPacific. All information provided in this report including statements, conclusions and recommendations are based solely on historical reports, field observations, and analyses performed by a State-certified laboratory. SounPacific is not responsible for laboratory errors and data obtained from the reports of other consultants.

SounPacific promises to perform all its work in a manner used by members in similar professions working in the same geographic area. SounPacific will do whatever is reasonable to ensure that data collection is accurate. Please note however, that rain, buried utilities, and other factors can influence groundwater depths, directions and other factors beyond what SounPacific could reasonably determine.

SounPacific

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Tables

Table 1
Soil Analytical Results
Big Oil and Tire Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample ID	Sample Location	Sample Date	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	TPHd (ppm)	TPHmo (ppm)	Total Pb (ppm)
SW-1	SW-1	3/6/1998	**24**	**0.53**	ND < 0.16	**0.085**	**0.33**	**1.4**	**1.1**	ND < 10	**9.3**
SW-2	SW-2	3/6/1998	**9.3**	**0.067**	**0.26**	**0.92**	**0.17**	ND < 0.10	**24**	ND < 10	**9**
SW-3	SW-3	3/6/1998	**110**	**1.8**	**1.3**	**5.71**	**2.2**	**2.9**	**6.6**	**60**	**43**
SW-4	SW-4	3/6/1998	**120**	**2.6**	**1.1**	**11.2**	**2.1**	**5.1**	**7.9**	**52**	**7**
PI-1	PI-1	3/6/1998	**2.3**	**0.027**	**0.18**	**0.192**	**0.037**	**0.056**	ND < 1.0	ND < 10	**7.7**
PI-2	PI-2	3/6/1998	**1.7**	**0.097**	**0.12**	**0.102**	**0.02**	**0.15**	ND < 1.0	**11**	**10**
B-1 @5'	B-1	10/24/2000	ND < 1.0	**0.0056**	ND < 0.010	ND < 0.005	ND < 0.005	**0.062**	ND < 1.0	ND < 10	**9.3**
B-1 @10'	B-1	10/24/2000	ND < 1.0	**0.0057**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	**8.8**
B-1 @15'	B-1	10/24/2000	ND < 1.0	**0.0069**	ND < 0.005	ND < 0.005	ND < 0.005	**0.16**	ND < 1.0	ND < 10	**9.7**
B-2 @5'	B-2	10/24/2000	ND < 1.0	**0.0059**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	**8.1**
B-2 @10'	B-2	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	**0.11**	ND < 1.0	ND < 10	**10**
B-2 @15'	B-2	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	**9.3**
B-3 @5'	B-3	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.030	ND < 0.005	ND < 0.005	**0.055**	ND < 1.0	ND < 10	**8.4**
B-3 @10'	B-3	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	**7.1**
B-4 @5'	B-4	10/24/2000	**8.2**	ND < 0.005	ND < 0.020	ND < 0.005	ND < 0.005	**0.75**	ND < 1.0	ND < 10	**8.9**
B-4 @10'	B-4	10/24/2000	**1.1**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	**0.83**	ND < 1.0	ND < 10	**8.7**
B-4 @15'	B-4	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	**6.7**
B-5 @5'	B-5	10/24/2000	**120**	**0.076**	ND < 0.50	**1.74**	**0.42**	**0.58**	**240**	**39**	**11**
B-5 @10'	B-5	10/24/2000	**3.3**	**5.0**	**0.41**	**0.584**	**0.64**	**1.6**	ND < 1.0	**19**	**12**
B-6 @5'	B-6	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.020	ND < 0.005	ND < 0.005	**0.19**	ND < 1.0	ND < 10	**8.9**
B-6 @10'	B-6	10/24/2000	**1.8**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	**0.85**	ND < 1.0	ND < 10	**9.4**
B-7 @5'	B-7	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	**8.1**
B-7 @10'	B-7	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	**6.9**
B-8 @5'	B-8	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	**16**
B-8 @8'	B-8	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	**13**
B-9 @5'	B-9	10/24/2000	ND < 1.0	**0.010**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	**9.4**
B-9 @10'	B-9	10/24/2000	ND < 1.0	**0.0076**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	**9.0**
B-10 @5'	B-10	10/24/2000	ND < 1.0	ND < 0.005	ND < 0.020	ND < 0.005	ND < 0.005	ND < 0.050	ND < 1.0	ND < 10	**8.9**
B-10 @10'	B-10	10/24/2000	ND < 1.0	**0.0056**	ND < 0.010	ND < 0.005	ND < 0.005	**1.2**	ND < 1.0	ND < 10	**7.8**

Table 1 (cont.)
Soil Analytical Results
Big Oil and Tire Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample ID	Sample Location	Sample Date	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	TPHd (ppm)	TPHmo (ppm)	Total Pb (ppm)
SB-11 @ 4'	B-11	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	**39.0**	----
SB-11 @ 8'	B-11	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.0066**	ND < 10	ND < 10	----
SB-11 @ 12'	B-11	5/15/2002	**0.93**	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.0383**	ND < 10	ND < 10	----
SB-12 @ 4'	B-12	5/15/2002	**0.195**	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.071**	ND < 10	ND < 10	----
SB-12 @ 8'	B-12	5/15/2002	**1.58**	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.897**	ND < 10	**33.7**	----
SB-12 @ 12'	B-12	5/15/2002	**2.67**	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**1.02**	**17.6**	**197**	----
SB-13 @ 4'	B-13	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	----
SB-13 @ 8'	B-13	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	----
SB-13 @ 12'	B-13	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	----
SB-14 @ 4'	B-14	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	----
SB-14 @ 8'	B-14	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	----
SB-14 @ 12'	B-14	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	----
SB-15 @ 4'	B-15	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	----
SB-15 @ 8'	B-15	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	----
SB-15 @ 12'	B-15	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.005**	ND < 10	ND < 10	----
SB-16 @ 4'	B-16	5/15/2002	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 10	ND < 10	----
SB-16 @ 8'	B-16	5/15/2002	**0.174**	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.027**	ND < 10	ND < 10	----
SB-16 @ 12'	B-16	5/15/2002	**0.794**	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.313**	ND < 10	ND < 10	----

Table 1 (cont.)
Soil Analytical Results
Big Oil and Tire Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample ID	Sample Location	Sample Date	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	DIPE (ppm)	TAME (ppm)	ETBE (ppm)	TBA (ppm)	TPHd (ppm)	TPHmo (ppm)
SB-17 @ 4.5'	B-17	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-17 @ 8'	B-17	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-17 @ 12'	B-17	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-17 @ 14'	B-17	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-17 @ 16'	B-17	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-17 @ 19'	B-17	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 4'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 8'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 10'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.0085**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 12'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.0426**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 16'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 17'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-18 @ 20'	B-18	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 4'	B-19	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 8'	B-19	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.032**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 10'	B-19	1/12/2005	**0.337**	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.476**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 12'	B-19	1/12/2005	**0.475**	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.864**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 18'	B-19	1/12/2005	**0.0901**	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.118**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 20'	B-19	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 22'	B-19	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-19 @ 24'	B-19	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-20 @ 3'	B-20	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-20 @ 8'	B-20	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	**14**	**12**
SB-20 @ 12'	B-20	1/12/2005	**117**	ND < 0.5	ND < 0.5	ND < 1.5	**0.529**	ND < 0.5	ND < 0.005	ND < 500	ND < 0.5	ND < 5.00	ND < 10	**10**
SB-20 @ 15'	B-20	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	**0.0595**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-20 @ 20'	B-20	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-20 @ 21'	B-20	1/12/2005	**0.230**	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-20 @ 24'	B-20	1/12/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10

Table 1 (cont.)
Soil Analytical Results
Big Oil and Tire Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample ID	Sample Location	Sample Date	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	DIPE (ppm)	TAME (ppm)	ETBE (ppm)	TBA (ppm)	TPHd (ppm)	TPHmo (ppm)
MW-5 @ 4'	MW-5	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
MW-6 @ 4'	MW-6	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
MW-6 @ 6'	MW-6	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
MW-6 @ 8'	MW-6	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	**0.0144**	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
MW-7 @ 4'	MW-7	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
MW-7 @ 7'	MW-7	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
MW-7 @ 8'	MW-7	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
MW-8 @ 4'	MW-8	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
MW-8 @ 6'	MW-8	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
MW-8 @ 8'	MW-8	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
MW-9 @ 4'	MW-9	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
MW-9 @ 6'	MW-9	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
MW-9 @ 8'	MW-9	2/15/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
B-26 @ 4'	B-26	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
B-26 @ 6'	B-26	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----
B-26 @ 8'	B-26	2/16/2006	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	----	----

notes:
TPHg: Total petroleum hydrocarbons as gasoline
MTBE: Methyl tertiary butyl ether
DIPE: DiIsopropyl ether
TAME: Tertiary amyl methyl ether
ETBE: Ethyl tertiary butyl ether
TBA: Tertiary butanol
TPHd: Total petroleum hydrocarbons as diesel
TPHmo: Total petroleum hydrocarbons as motor oil
Pb: lead
ND: Not detected at or below the method detection limit as shown.
ppm: parts per million = µg/g = mg/kg = 1000 µg/kg

Table 2
Groundwater Analytical Results from Boreholes
Big Oil and Tire Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample ID	Sample Location	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPHd (ppb)	TPHmo (ppb)	Methanol (ppb)	Ethanol (ppb)	Total Pb (ppb)
GW-1	GW-1	3/6/1998	**180,000**	**19,000**	**16,000**	**15,700**	**3,400**	**65,000**	----	----	----	----	**230,000**	**48,000**	----	----	**130**
B-1	B-1	10/25/2000	**110**	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	**120**	----	----	----	----	ND < 50	ND < 170	----	----	**1,800**
B-3	B-3	10/25/2000	**390**	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	**630**	----	----	----	----	ND < 50	ND < 170	----	----	**130**
B-5	B-5	10/25/2000	**35,000**	**4,100**	**13**	**408.5**	**460**	**12,000**	----	----	----	----	**21,000**	**5,100**	----	----	**770**
B-6	B-6	10/25/2000	**13,000**	ND < 0.50	ND < 1.0	ND < 0.50	ND < 0.50	**13,000**	----	----	----	----	ND < 50	ND < 170	----	----	**410**
B-7	B-7	10/25/2000	**57**	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	**47**	----	----	----	----	ND < 50	ND < 170	----	----	**130**
B-8	B-8	10/25/2000	ND < 50	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	**15**	----	----	----	----	ND < 50	ND < 170	----	----	**2,900**
B-9	B-9	10/25/2000	**180**	ND < 0.50	ND < 0.50	ND < 0.50	ND < 0.50	**38**	----	----	----	----	ND < 50	ND < 170	----	----	**170**
B-10	B-10	10/25/2000	**12,000**	ND < 0.50	ND < 2.0	ND < 0.50	ND < 0.50	**20,000**	----	----	----	----	ND < 50	ND < 170	----	----	**110**
GWSB-11 @ 12'	B-11	5/15/2002	**3,710**	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	**2,840**	ND < 0.5	**11.8**	ND < 0.5	ND < 40	ND < 50	ND < 50	ND < 5,000	ND < 5,000	----
GWSB-12 @ 12'	B-12	5/15/2002	**25,800**	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	**28,865**	ND < 0.5	**94.9**	ND < 0.5	ND < 40	ND < 50	ND < 50	ND < 5,000	ND < 5,000	----
GWSB-13 @ 12'	B-13	5/15/2002	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	**31.7**	ND < 0.5	ND < 0.5	ND < 0.5	ND < 40	ND < 50	ND < 50	ND < 5,000	ND < 5,000	----
GWSB-14 @ 16'	B-14	5/16/2002	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	ND < 2.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 40	ND < 50	ND < 50	ND < 5,000	ND < 5,000	----
GWSB-15 @ 12'	B-15	5/15/2002	**245**	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	**127**	ND < 0.5	ND < 0.5	ND < 0.5	ND < 40	ND < 50	ND < 50	ND < 5,000	ND < 5,000	----
GWSB-16 @ 12'	B-16	5/15/2002	**3,740**	**53.2**	**1.2**	**6.5**	**18.2**	**3,860**	ND < 0.5	ND < 0.5	ND < 0.5	ND < 40	ND < 50	ND < 50	ND < 5,000	ND < 5,000	----
SBGW-17	B-17	1/12/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	**684**	**201**	----	----	----
SBGW-18	B-18	1/12/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	**13.7**	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 50	ND < 50	----	----	----
SBGW-19	B-19	1/12/2005	**614**	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	**902**	ND < 0.5	**10.0**	ND < 5.0	ND < 50	ND < 50	ND < 50	----	----	----
SBGW-20	B-20	1/12/2005	**2,400**	**107**	**5.8**	**44.5**	**181**	**1,490**	ND < 5.0	ND < 50	ND < 50	ND < 500	**9,440**	**3,620**	----	----	----
SBGW-21	B-21	1/12/2005	**97.0**	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	**139**	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 50	**118**	----	----	----
SBGW-22	B-22	1/11/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 50	ND < 50	----	----	----
SBGW-23	B-23	1/11/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 50	ND < 50	----	----	----
SBGW-24	B-24	1/11/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	**7.2**	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 50	ND < 50	----	----	----
SBGW-25	B-25	1/11/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 77	ND < 77	----	----	----

Table 2 (cont.)
Groundwater Analytical Results from Boreholes
Big Oil and Tire Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample ID	Sample Location	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPHd (ppb)	TPHmo (ppb)	Methanol (ppb)	Ethanol (ppb)	Total Pb (ppb)
MW-5(GW) @ 8'	MW-5	2/16/2006	**292**	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	**500**	ND < 0.5	**3.6**	ND < 0.50	ND <50.0	----	----	----	----	----
MW-6(GW) @ 8'	MW-6	2/16/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	**2.0**	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0	----	----	----	----	----
MW-6(GW) @ 30'	MW-6	2/16/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	ND <1.0	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0	----	----	----	----	----
MW-7(GW) @ 8'	MW-7	2/15/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	**3.2**	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0	----	----	----	----	----
MW-7(GW) @ 20'	MW-7	2/15/2006	**243**	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	**360**	ND < 0.5	**1.9**	ND < 0.50	ND <50.0	----	----	----	----	----
MW-8(GW) @ 8'	MW-8	2/15/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	ND <1.0	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0	----	----	----	----	----
MW-8(GW) @ 20'	MW-8	2/15/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	ND <1.0	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0	----	----	----	----	----
MW-8(GW) @ 30'	MW-8	2/15/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	ND <1.0	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0	----	----	----	----	----
B-26(GW) @ 8'	B-26	2/16/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	ND <1.0	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0	----	----	----	----	----
B-26(GW) @ 20'	B-26	2/16/2006	ND <50.0	ND < 0.50	ND < 0.50	ND <1.0	ND < 0.50	ND <1.0	ND < 0.5	ND < 0.50	ND < 0.50	ND <50.0	----	----	----	----	----

notes:
TPHg: Total petroleum hydrocarbons as gasoline
MTBE: Methyl tertiary butyl ether
DIPE: Dilsopropyl ether
TAME: Tertiary amyl methyl ether
ETBE: Ethyl tertiary butyl ether
TBA: Tertiary butanol

TPHd: Total petroleum hydrocarbons as diesel
TPHmo: Total petroleum hydrocarbons as motor oil
Pb: lead
ND: Not detected at or below the method detection limit as shown.
ppb: parts per billion = µg/l = .001 mg/l = 0.001 ppm.

Table 3
Groundwater Analytical Results from Monitoring Wells
Big Oil and Tire Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample Location	Sample Event	Annual Quarter	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	Methanol (ppb)	Ethanol (ppb)	TPHd (ppb)	TPHmo (ppb)
MW-1	Well Installation	Second Quarter	5/19/2002	**364**	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	**344**	ND < 0.5	ND < 0.5	ND < 0.5	ND < 40	ND < 5,000	ND < 5,000	**170**	ND < 50
	First Quarterly	Third Quarter	7/16/2002	**144**	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	**234**	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	ND < 5,000	ND < 5,000	**235**	ND < 50
	Second Quarterly	Fourth Quarter	10/152/02	**99.3**	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	**225**	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	----	----	ND < 50	ND < 50
	Third Quarterly	First Quarter	1/13/2002	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	**130**	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 12.5	ND < 50	ND < 500
	Fourth Quarterly	Second Quarter	4/11/2003	ND < 50	ND < 5.0	ND < 5.0	ND < 10	ND < 5.0	**150**	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 5.0	ND < 130	ND < 50	ND < 500
	Fifth Quarterly	Third Quarter	7/14/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	**370**	ND < 0.5	**0.5**	ND < 0.5	**54**	ND < 5.0	ND < 13	ND < 50	ND < 500
	Sixth Quarterly	Fourth Quarter	10/26/2003	ND < 50	ND < 5.0	ND < 5.0	ND < 10.0	ND < 5.0	**190**	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 5.0	ND < 200	ND < 50	ND < 500
	Seventh Quarterly	First Quarter	1/17/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	**89**	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 20	ND < 50	ND < 500
	Eighth Quarterly	Second Quarter	4/22/2004	**160**	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	**260**	ND < 0.5	**0.8**	ND < 0.5	ND < 5.0	----	----	ND < 50	ND < 500
	Ninth Quarterly	Third Quarter	7/23/2004	ND < 500	ND < 5.0	ND < 5.0	ND < 15	ND < 5.0	**370**	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	----	----	ND < 50	ND < 500
	Tenth Quarterly	Fourth Quarter	10/31/2004	**66**	ND < 0.5	ND < 0.5	ND < 1.5	ND < 0.5	**100**	ND < 0.5	**0.5**	ND < 0.5	ND < 5.0	----	----	ND < 50	ND < 500
	Eleventh Quarterly	First Quarter	1/21/2005	**79.1**	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	**91.3**	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	----	----	ND < 50	ND < 50
	Twelfth Quarterly	Second Quarter	4/29/2005	**163**	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	**234**	----	----	----	----	----	----	----	----
	Thirteenth Quarterly	Third Quarter	7/21/2005	**366**	ND < 1.2	ND < 1.2	ND < 2.5	ND < 1.2	**408**	ND < 1.2	ND < 1.2	ND < 1.2	ND < 125	----	----	----	----
	Fourteenth Quarterly	Fourth Quarter	10/27/2005	**162**	ND < 1.2	ND < 1.2	ND < 2.5	ND < 1.2	**250**	ND < 1.2	**1.2**	ND < 1.2	ND < 125	----	----	----	----
	Fifteenth Quarterly	First Quarter	1/22/2006	**63.1**	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	**92.6**	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0	----	----	----	----
MW-2	Well Installation	Second Quarter	5/19/2002	**7,830**	**1,000**	ND < 30	**128**	**127**	**1,600**	ND < 50	ND < 50	ND < 50	ND < 4,000	ND < 500,000	ND < 5,000	**788**	**614**
	First Quarterly	Third Quarter	7/16/2002	**4,980**	**383**	**11.1**	**33.7**	**57.4**	**10,700**	ND < 10	**102**	ND < 10	ND < 2000	ND < 5,000	ND < 5,000	**322**	ND < 50
	Second Quarterly	Fourth Quarter	10/152/02	**3,370**	**127**	**3.2**	**1.7**	**5.5**	**15,000**	ND < 0.5	**86.2**	ND < 0.5	ND < 100	----	----	ND < 50	ND < 50
	Third Quarterly	First Quarter	1/13/2002	**120**	**12**	ND < 0.5	ND < 1.0	**1.0**	**170**	ND < 0.5	**1.6**	ND < 0.5	ND < 5.0	ND < 5.0	ND < 12.5	ND < 50	ND < 500
	Fourth Quarterly	Second Quarter	4/11/2003	**240**	**38**	ND < 5.0	ND < 10	**5.1**	**180**	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 5.0	ND < 130	**57**	ND < 500
	Fifth Quarterly	Third Quarter	7/14/2003	**220**	**5**	ND < 5.0	ND < 10	ND < 5.0	**1,100**	ND < 5.0	**9**	ND < 5.0	ND < 50	ND < 5.0	ND < 130	ND < 50	ND < 500
	Sixth Quarterly	Fourth Quarter	10/26/2003	**730**	**60**	ND < 50	ND < 100	ND < 50	**6,500**	ND < 50	**65**	ND < 50	ND < 500	ND < 5.0	ND < 2,000	ND < 50	ND < 500
	Seventh Quarterly	First Quarter	1/17/2004	ND < 500	**15**	ND < 5.0	ND < 10	ND < 5.0	**150**	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 5.0	ND < 200	**70**	ND < 500
	Eighth Quarterly	Second Quarter	4/22/2004	ND < 500	**24**	**16**	ND < 10	ND < 5.0	**190**	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	----	----	ND < 50	ND < 500
	Ninth Quarterly	Third Quarter	7/23/2004	**1,600**	**9.3**	ND < 5.0	ND < 15	ND < 5.0	**4,000**	ND < 5.0	**29**	ND < 5.0	ND < 50	----	----	**75**	ND < 500
	Tenth Quarterly	Fourth Quarter	10/31/2004	**550**	**11**	ND < 5.0	ND < 15	ND < 5.0	**660**	ND < 5.0	**5.6**	ND < 5.0	ND < 50	----	----	**67**	ND < 500
	Eleventh Quarterly	First Quarter	1/21/2005	**159**	**9.0**	**0.7**	ND < 1.0	**2.1**	**142**	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	----	----	ND < 50	ND < 50
	Twelfth Quarterly	Second Quarter	4/29/2005	**173**	**18.8**	ND < 1.2	ND < 2.5	**5.4**	**170**	----	----	----	----	----	----	----	----
	Thirteenth Quarterly	Third Quarter	7/21/2005	**1,410**	**8.9**	ND < 5.0	ND < 10.0	ND < 5.0	**1,650**	ND < 5.0	**16.0**	ND < 5.0	ND < 500	----	----	----	----
	Fourteenth Quarterly	Fourth Quarter	10/27/2005	**2,100**	**19.3**	ND < 5.0	ND < 10.0	ND < 5.0	**3,960**	ND < 5.0	**34.8**	ND < 5.0	ND < 500	----	----	----	----
	Fifteenth Quarterly	First Quarter	1/22/2006	**73.0**	**4.4**	ND < 0.5	ND < 1.0	ND < 0.5	**92.5**	ND < 0.5	**0.8**	ND < 0.5	ND < 50.0	----	----	----	----
MW-3	Well Installation	Second Quarter	5/19/2002	**13,300**	ND < 30	ND < 30	ND < 60	ND < 30	**49,312**	ND < 50	ND < 50	ND < 50	ND < 4,000	ND < 500,000	ND < 5,000	**146**	ND < 50
	First Quarterly	Third Quarter	7/16/2002	**12,400**	ND < 6.0	ND < 6.0	ND < 12.0	ND < 6.0	**36,700**	ND < 10	**109**	ND < 10	ND < 2000	ND < 5,000	ND < 5,000	**200**	ND < 50
	Second Quarterly	Fourth Quarter	10/152/02	**5,690**	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	**25,800**	ND < 0.5	**104**	ND < 0.5	ND < 100	----	----	ND < 50	ND < 50
	Third Quarterly	First Quarter	1/13/2002	**1,800**	ND < 0.5	ND < 0.5	ND < 0.9	ND < 0.5	**11,000**	p	**71**	**6.2**	**1,000**	ND < 5.0	ND < 12.5	ND < 50	ND < 500
	Fourth Quarterly	Second Quarter	4/11/2003	**1,300**	ND < 50	ND < 50	ND < 100	ND < 50	**11,000**	ND < 50	ND < 50	ND < 50	ND < 500	ND < 5.0	ND < 1,300	ND < 50	ND < 500
	Fifth Quarterly	Third Quarter	7/14/2003	**2,000**	ND < 50	ND < 50	ND < 100	ND < 50	**19,000**	ND < 50	**71**	ND < 50	ND < 500	ND < 5.0	ND < 1,300	ND < 50	ND < 500
	Sixth Quarterly	Fourth Quarter	10/26/2003	ND < 50	ND < 50	ND < 50	ND < 100	ND < 50	**20,000**	ND < 50	**120**	ND < 50	ND < 500	ND < 5.0	ND < 2,000	**56**	ND < 500
	Seventh Quarterly	First Quarter	1/17/2004	ND < 5,000	ND < 50	ND < 50	ND < 100	ND < 50	**11,000**	ND < 50	**110**	ND < 50	ND < 500	ND < 5.0	ND < 2,000	ND < 50	ND < 500
	Eighth Quarterly	Second Quarter	4/22/2004	**10,000**	ND < 50	**100**	ND < 100	ND < 50	**14,000**	ND < 50	**130**	ND < 50	ND < 500	----	----	ND < 50	ND < 500
	Ninth Quarterly	Third Quarter	7/23/2004	**7,300**	ND < 50	ND < 50	ND < 150	ND < 50	**13,000**	ND < 50	**92**	ND < 50	ND < 500	----	----	**120**	ND < 500
	Tenth Quarterly	Fourth Quarter	10/31/2004	**7,000**	ND < 20	ND < 50	ND < 150	ND < 50	**11,000**	ND < 50	**84**	ND < 50	ND < 500	----	----	ND < 50	ND < 500
	Eleventh Quarterly	First Quarter	1/21/2005	**10,800**	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	**14,200**	ND < 0.5	**108**	**6.6**	**152**	----	----	ND < 50	ND < 50
	Twelfth Quarterly	Second Quarter	4/29/2005	**19,200**	ND < 100	**284**	**898**	**136**	**12,700**	----	----	----	----	----	----	----	----
	Thirteenth Quarterly	Third Quarter	7/21/2005	**9,050**	ND < 62.5	ND < 62.5	ND < 125	ND < 62.5	**11,100**	ND < 62.5	ND < 62.5	ND < 62.5	ND < 6,250	----	----	----	----
	Fourteenth Quarterly	Fourth Quarter	10/27/2005	**5,720**	ND < 62.5	ND < 62.5	ND < 125	ND < 62.5	**7,790**	ND < 62.5	**63**	ND < 62.5	ND < 6,250	----	----	----	----
	Fifteenth Quarterly	First Quarter	1/22/2006	**5,950**	ND < 25.0	ND < 25.0	ND < 50.0	ND < 25.0	**12,500**	ND < 25.0	**67.0**	ND < 25.0	ND < 2,500	----	----	----	----
DW-1	Fifth Quarterly	Third Quarter	7/14/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 5.0	ND < 13	ND < 50	ND < 500

Table 3 (cont.)
Groundwater Analytical Results from Monitoring Wells
Big Oil and Tire Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample Location	Sample Event	Annual Quarter	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	Methanol (ppb)	Ethanol (ppb)	TPHd (ppb)	TPHmo (ppb)	Lead (ppb)
MW-5	Well Installation	First Quarter	3/10/2006	**82.7**	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	**122**	ND < 0.5	**1.0**	ND < 0.5	ND < 50	----	----	----	----	**26**
MW-6	Well Installation	First Quarter	3/10/2006	ND < 50.0	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	**37.5**	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	----	----	----	----	**21**
MW-7	Well Installation	First Quarter	3/10/2006	**51.8**	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	**79.7**	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	----	----	----	----	**51**
MW-8	Well Installation	First Quarter	3/10/2006	ND < 50.0	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	**2.5**	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	----	----	----	----	**35**
MW-9	Well Installation	First Quarter	3/10/2006	ND < 50.0	ND < 0.5	ND < 0.5	ND <1.0	ND < 0.5	ND <1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	----	----	----	----	**26**

Notes:

TPHg: Total Petroleum Hydrocarbons as gasoline
MTBE: Methyl tertiary butyl ether
DIPE: Diisopropyl Ether
TAME: Tertiary amyl methyl ether
ETBE: Ethyl tertiary butyl ether
--' : Not tested
TBA: Tertiary butanol
TPHd: Total Petroleum Hydrocarbons as diesel
TPHmo: Total petroleum hydrocarbons as motor oil
ND: Not detected. Sample was detected at or below the method detection limit as shown.
ppb: parts per billion = µg/l = .001 mg/l = 0.001 ppm

Table 4

Water Levels

Big Oil and Tire Old Office
211 Railroad Avenue
Blue Lake, California 95525

Sample Location	Date	Depth to Bottom/ Feet BGS	Survey Height/ Feet Above MSL	Depth to Water/ Feet BGS	Adjusted Elevation/ Feet Above MSL	Thickness of Floating Product/ Feet
MW-1	5/19/2002	14.19	90.50	5.52	84.98	0.00
	6/16/2002	14.21	90.50	6.35	84.15	0.00
	7/16/2002	14.20	90.50	7.11	83.39	0.00
	8/17/2002	14.18	90.50	8.61	81.89	0.00
	9/11/2002	14.20	90.50	7.53	82.97	0.00
	10/15/2002	14.20	90.50	7.87	82.63	0.00
	11/15/2002	14.20	90.50	6.06	84.44	0.00
	12/16/2002	14.41	90.50	2.52	87.98	0.00
	1/13/2003	14.22	90.50	2.11	88.39	0.00
	2/14/2003	14.18	90.50	3.43	87.07	0.00
	3/12/2003	14.18	90.50	4.08	86.42	0.00
	4/11/2003	14.18	90.50	2.23	88.27	0.00
	7/14/2003	14.39	90.50	6.52	83.98	0.00
	10/26/2003	14.39	90.50	7.70	82.80	0.00
	1/17/2004	14.39	90.50	2.53	87.97	0.00
	4/22/2004	14.39	90.50	3.43	87.07	0.00
	7/23/2004	14.39	90.50	7.35	83.15	0.00
	10/31/2004	14.11	90.50	4.36	86.14	0.00
	1/21/2005	14.37	90.50	3.25	87.25	0.00
	4/29/2005	14.37	90.50	4.05	86.45	0.00
	7/21/2005	14.40	90.50	5.75	84.75	0.00
	10/27/2005	14.37	90.50	5.77	84.73	0.00
	1/22/2006	14.40	90.50	1.62	88.88	0.00
MW-2	5/19/2002	14.25	91.20	5.25	85.95	0.00
	6/16/2002	14.23	91.20	6.19	85.01	0.00
	7/16/2002	14.21	91.20	7.12	84.08	0.00
	8/17/2002	14.16	91.20	7.80	83.40	0.00
	9/11/2002	14.14	91.20	7.71	83.49	0.00
	10/15/2002	14.13	91.20	8.28	82.92	0.00
	11/15/2002	14.19	91.20	6.30	84.90	0.00
	12/16/2002	14.43	91.20	3.73	87.47	0.00
	1/13/2003	14.14	91.20	2.25	88.95	0.00
	2/14/2003	14.21	91.20	3.25	87.95	0.00
	3/12/2003	14.15	91.20	3.67	87.53	0.00
	4/11/2003	14.15	91.20	2.20	89.00	0.00
	7/14/2003	14.30	91.20	6.61	84.59	0.00
	10/26/2003	14.30	91.20	8.18	83.02	0.00
	1/17/2004	14.30	91.20	2.37	88.83	0.00
	4/22/2004	14.30	91.20	2.90	88.30	0.00
	7/23/2004	14.30	91.20	7.48	83.72	0.00
	10/31/2004	14.05	91.20	4.19	87.01	0.00
	1/21/2005	14.28	91.20	2.95	88.25	0.00
	4/29/2005	14.22	91.20	3.45	87.75	0.00
	7/21/2005	14.28	91.20	5.40	85.80	0.00
	10/27/2005	14.24	91.20	6.66	84.54	0.00
	1/22/2006	14.31	91.20	1.84	89.36	0.00

Sample Location	Date	Depth to Bottom/ Feet BGS	Survey Height/ Feet Above MSL	Depth to Water/ Feet BGS	Adjusted Elevation/ Feet Above MSL	Thickness of Floating Product/ Feet
MW-3	5/19/2002	14.15	90.37	19.00	71.37	0.00
	6/16/2002	14.20	90.37	5.96	84.41	0.00
	7/16/2002	14.20	90.37	6.88	83.49	0.00
	8/17/2002	14.20	90.37	8.56	81.81	0.00
	9/11/2002	14.19	90.37	7.25	83.12	0.00
	10/15/2002	14.20	90.37	7.34	83.03	0.00
	11/15/2002	14.21	90.37	7.37	83.00	0.00
	12/16/2002	14.46	90.37	5.88	84.49	0.00
	1/13/2003	14.20	90.37	4.70	85.67	0.00
	2/14/2003	14.20	90.37	6.49	83.88	0.00
	3/12/2003	14.20	90.37	5.78	84.59	0.00
	4/11/2003	14.20	90.37	4.55	85.82	0.00
	7/14/2003	14.40	90.37	7.22	83.15	0.00
	10/26/2003	14.40	90.37	7.26	83.11	0.00
	1/17/2004	14.40	90.37	5.11	85.26	0.00
	4/22/2004	14.40	90.37	4.58	85.79	0.00
	7/23/2004	14.40	90.37	7.23	83.14	0.00
	10/31/2004	14.14	90.37	5.79	84.58	0.00
	1/21/2005	14.41	90.37	4.41	85.96	0.00
	4/29/2005	14.42	90.37	5.10	85.27	0.00
	7/21/2005	14.43	90.37	5.94	84.43	0.00
	10/27/2005	14.42	90.37	5.56	84.81	0.00
	1/22/2006	14.40	90.37	2.67	87.70	0.00
MW-5	3/10/2006	12.94	91.24	1.93	89.31	0.00
MW-6	3/10/2006	12.54	91.11	0.92	90.19	0.00
MW-7	3/10/2006	12.39	89.26	1.83	87.43	0.00
MW-8	3/10/2006	12.41	88.57	1.63	86.94	0.00
MW-9	3/10/2006	12.49	88.16	0.52	87.64	0.00

Notes:
Bgs: Below Ground Surface
MSL: Mean Sea Level

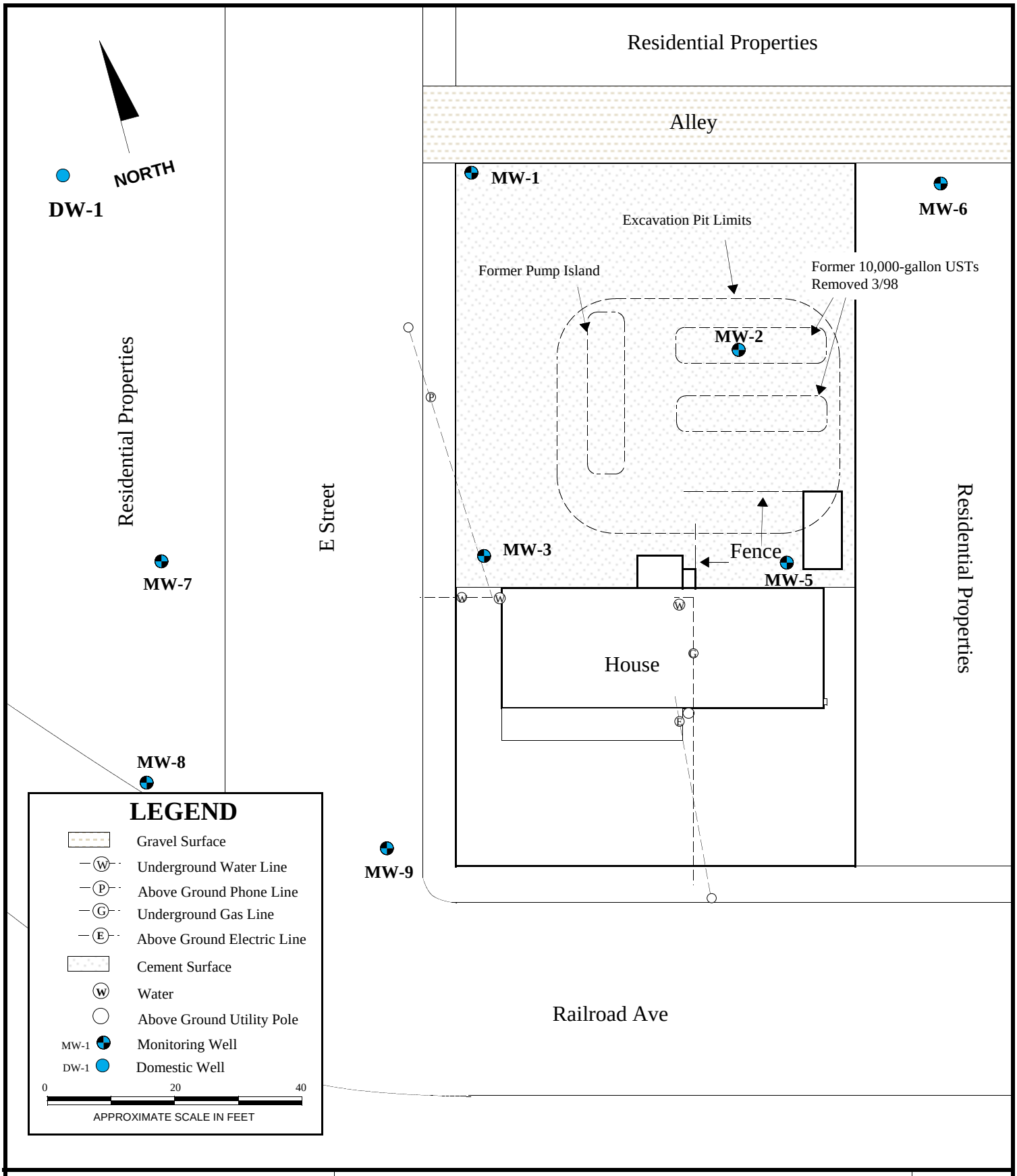
Figures

SounPacific Environmental Services
(707) 269-0884

AERIAL/TOPO MAP

BO&T Old Office
211 Railroad Avenue
Blue Lake, California 95525

Project No.	Report Date	Figure
SP-23	6/8/2006	1



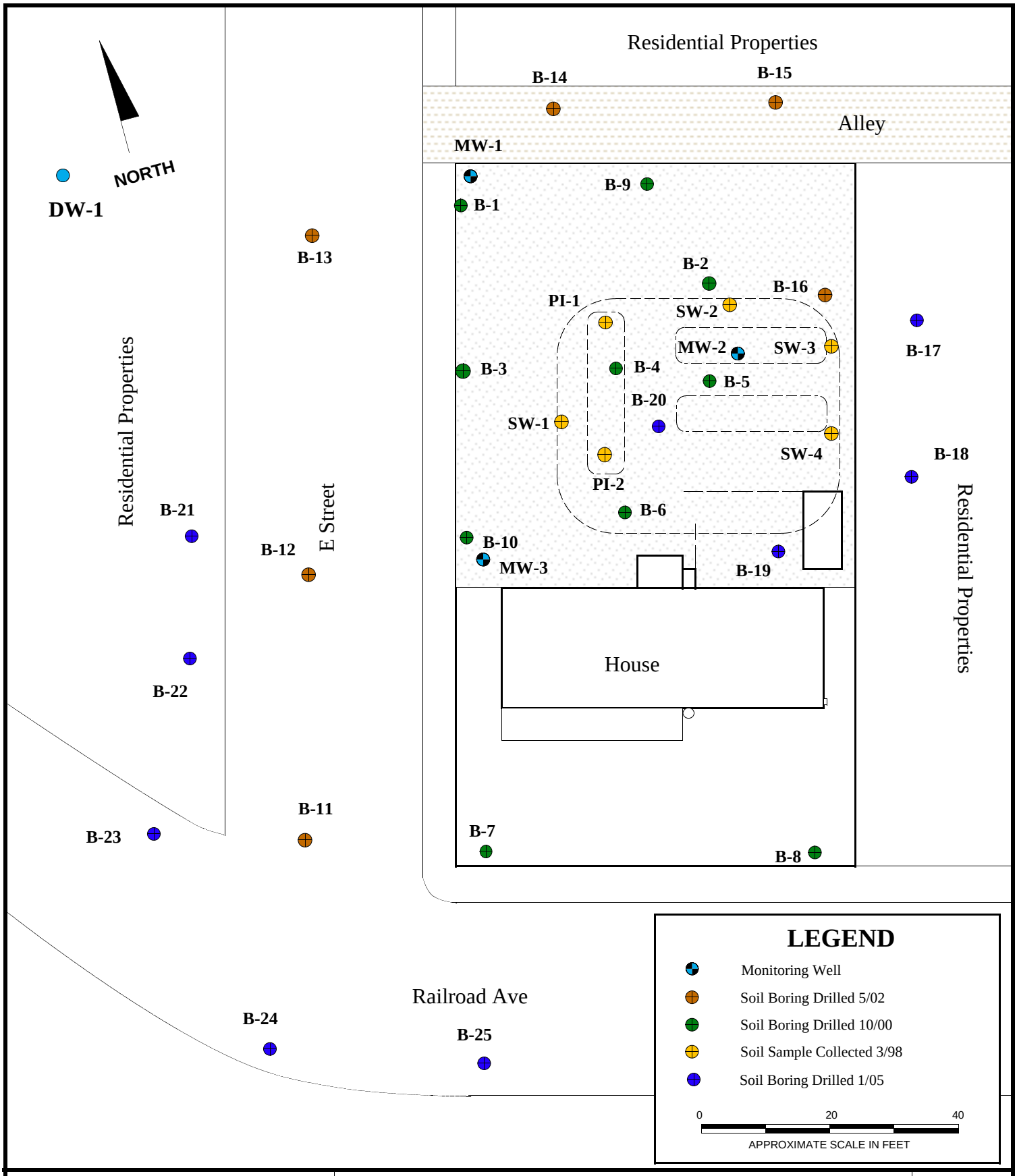
SITE PLAN

Figure 2

Environmental Services

BO&T Old Office
211 Railroad Ave
Blue Lake, California 95525

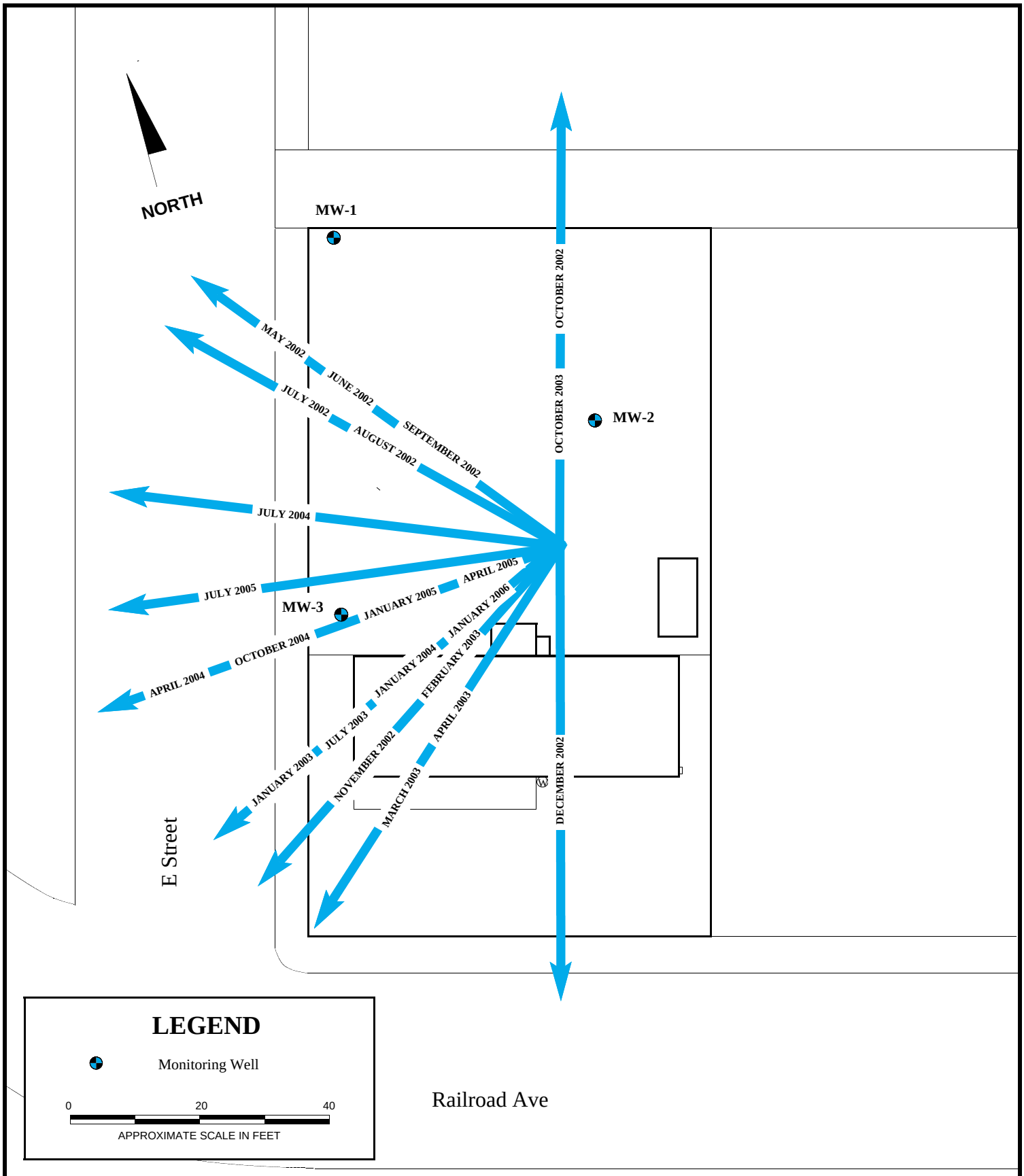
Project No.	Report Date
SP-23	6/8/06



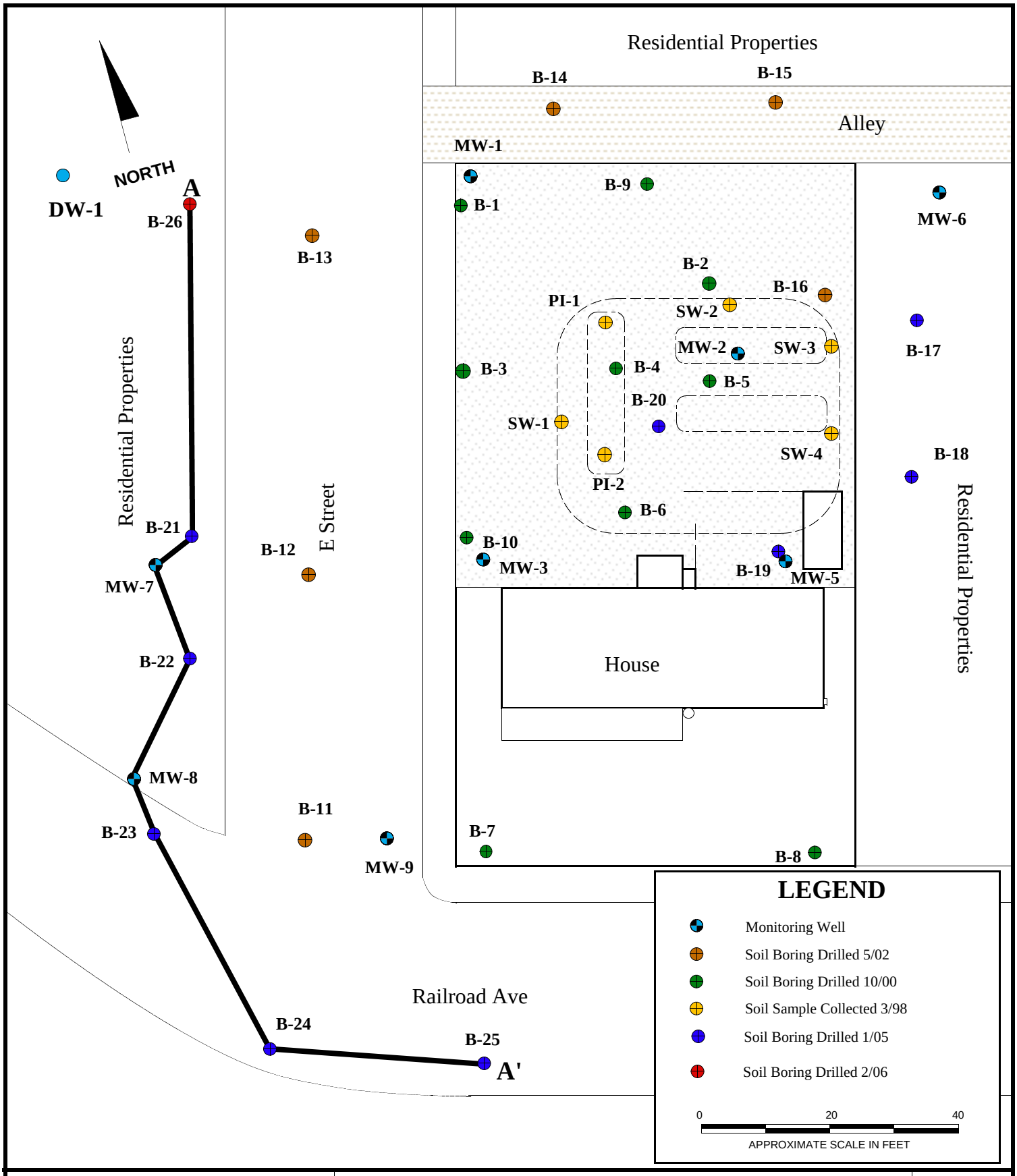
Environmental Services

PREVIOUS INVESTIGATIONS

BO&T Old Office 211 Railroad Ave Blue Lake, California 95525	Project No.	Report Date	Figure
	SP-23	6/8/06	3



Environmental Services	**GROUNDWATER FLOW DIRECTION SUMMARY**		Figure
	BO&T Old Office 211 Railroad Ave Blue Lake, California	Project No. SP-23	Report Date 6/8/06	4



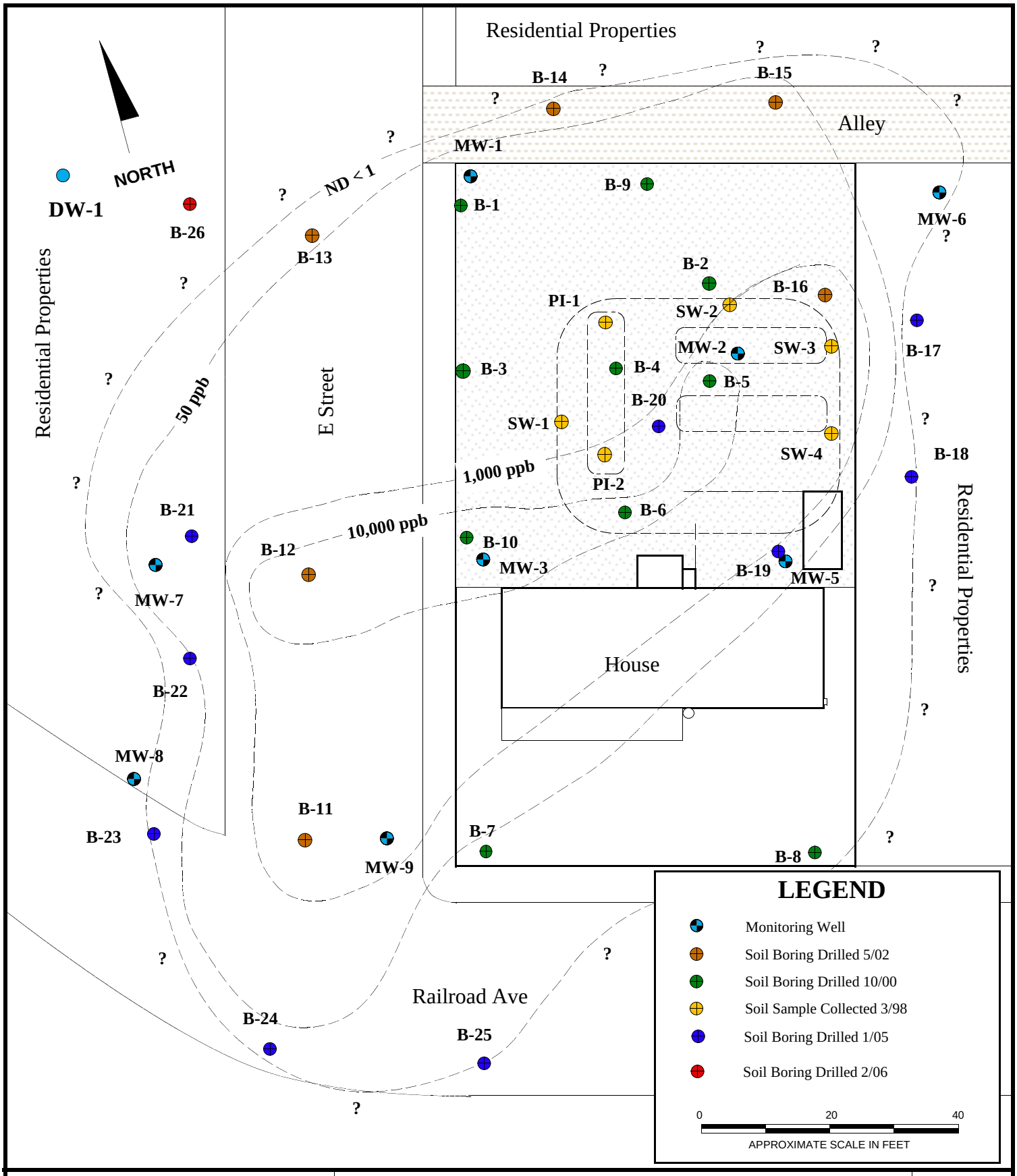
Environmental Services

RECENT INVESTIGATION

BO&T Old Office
211 Railroad Ave
Blue Lake, California 95525

Project No.	Report Date
SP-23	6/8/06

Figure 5



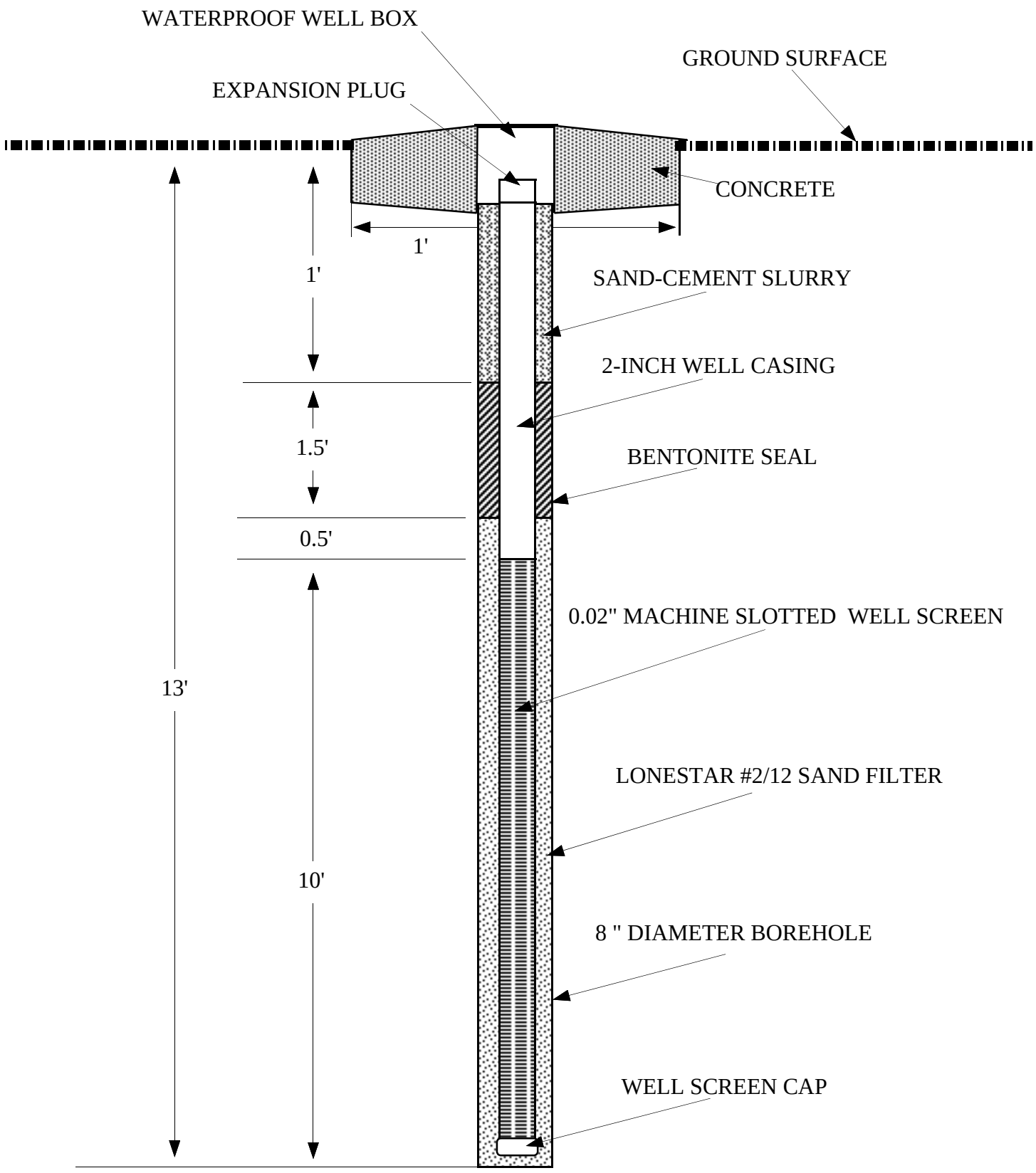
Environmental Services

LATERAL EXTENT OF MTBE IN GROUNDWATER

Figure 6

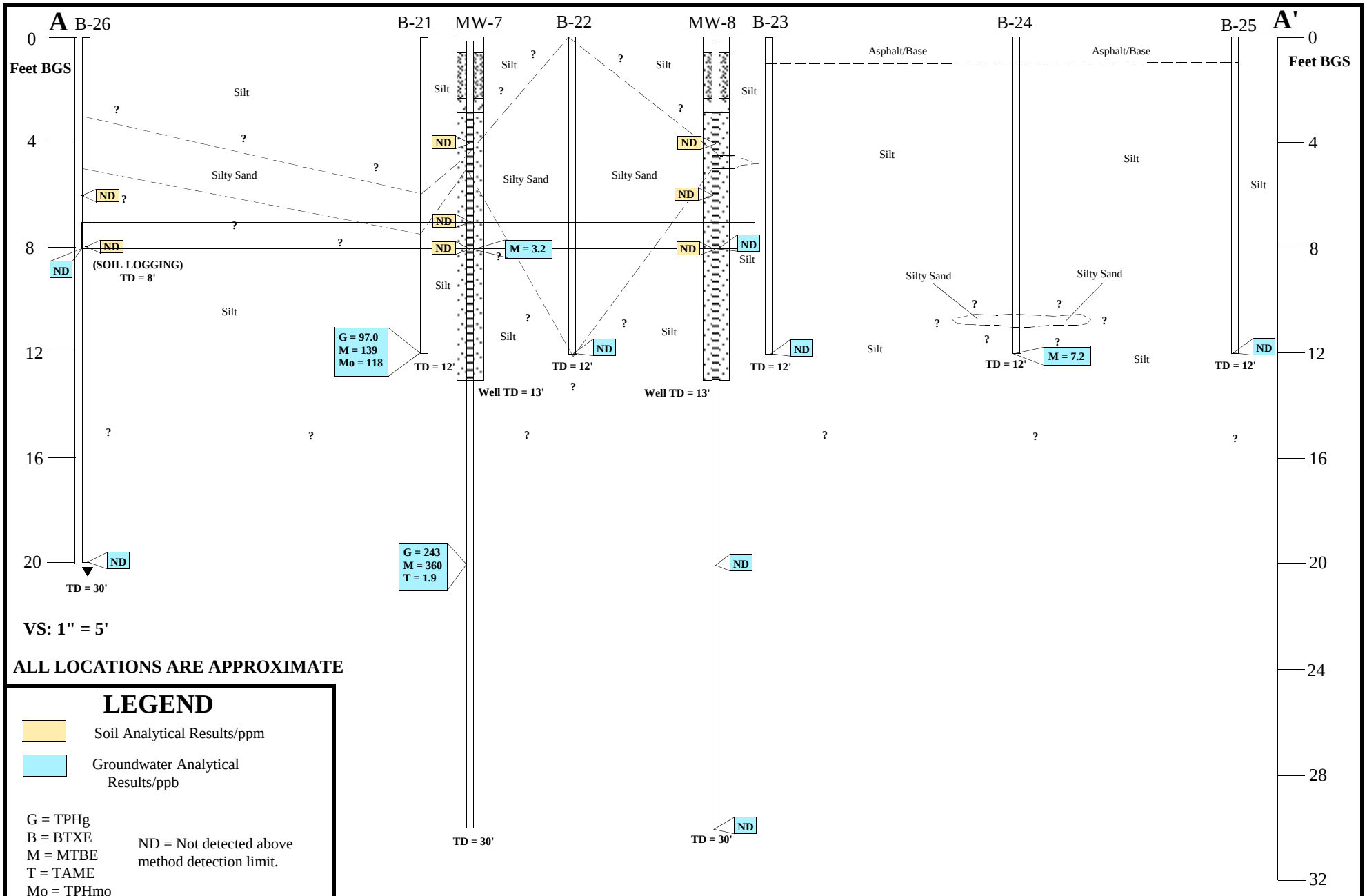
BO&T Old Office
211 Railroad Ave
Blue Lake, California 95525

Project No.	Report Date
SP-23	6/8/06



Drawing not to scale

	MONITORING WELL COMPLETION DIAGRAM		Figure
Environmental Services	BO&T Old Office 211 Railroad Avenue Blue Lake, California 95525	Project No. SP-23	Report Date 6/8/06	7



VS: 1" = 5'

ALL LOCATIONS ARE APPROXIMATE

LEGEND

Soil Analytical Results/ppm

Groundwater Analytical Results/ppb

G = TPHg
B = BTXE
M = MTBE
T = TAME
Mo = TPHmo

ND = Not detected above method detection limit.

Assumed Lithologic Boundary

0 20 40

APPROXIMATE SCALE IN FEET

Environmental Services

LITHOLOGIC CROSS-SECTION OF A TO A'

BO&T Old Office
211 Railroad Avenue
Blue Lake, California 95525

Project No.	Report Date
SP-23	6/8/06

Figure 8

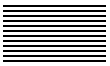
Appendices

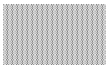
Appendix A

Legend for Soil Boring Logs

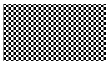

A/B or F/G/Base or Fil


ML Silt


CL Clay


SM Silty Sand


SC Clayey Sand


SM/SC Silty/Clayey Sand


SP Sand


SP/SM Silty Sand to Sand or Sandy Silt to Sand

Gradational Contact

Abrupt or Clear Contact


Stabilized Water Reading


Initial Water Reading

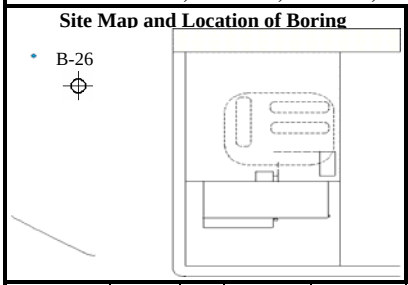
Boring Log

Job Site/ Address: BO&T Old Office
211 Railroad Avenue, Blue Lake, California, 95525

SounPacific Environmental Services (707) 269-0884

Client	Boring No.
Dave & Christina Fisch	B-26
Job#: SP-23	**Sheet**
Date: 2/16/2006	1 of 6

Site Map and Location of Boring



DRILLER INFORMATION		PROJECT INFORMATION	
Drilling Co.:	Fisch Environmental	**Project Manager:**	ML
Rig Operator:	Dave Fisch	**Geologist:**	ML
Drilling Method:	Continuous Core	**Sampler:**	JS
Drill Rig Type:	Direct-Push	**Sampling Method:**	
Approximate Initial Water Level		**Time Start:**	N/A
5.29 feet bgs		**Time Stop:**	N/A
Approximate Stabilized Water Level		**Boring Diameter:**	2.25 inch
N/A		**Boring Depth:**	30 Feet

Northing: N/A **Easting:** N/A **Elevation:** N/A

PID Reading (ppm)	Depth to Water (feet bgs)	Water Level	DEPTH (feet)	SOIL SAMPLE LOCATION	Graphic Representation: GRAVEL	FINES	SANDS	GROUP SYMBOL	FIELD NOTES
			0					ML	**0-3' Silt** dark brown, organics, pea size pebbles, stiff, no mottles, no odor
			1						
			2						
			3					ML	**3-5' Silt** greyish brown, mottles common, roots (reddish brown), few pea size pebbles, stiff, no odor
0 ppm			4	*					
			5					SM	**5-6' Silty Sand** gravels, wet, loose, poorly sorted, coarse, clay films, no odor
0 ppm			6	*				ML	**6-8' Silt** greyish brown to yellowish brown, mottles common, slightly moist, interbedded with sand lenses, no odor
			7						
0 ppm			8	*				– Unknown	**Bottom of logging at 8'** **8-30' No Recovery**
			9						
			10						
			11						
			12						
			13						
			14						
			15						
			16						
			17						
			18						
			30						

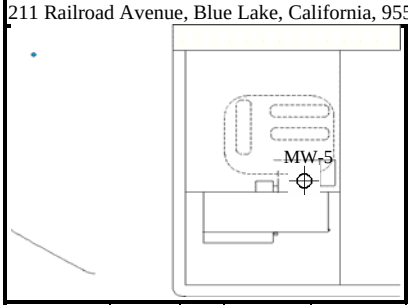
Comments: Initial groundwater at 5.29 ft. Groundwater sample at 8 and 20 ft: Turbidity: Moderate. Color: Brownish grey. No hydrocarbon odor detected. Unable to take groundwater samples at 10 and 30 ft. Unable to take discreet soil samples at 10, 20, and 30 ft.

Boring Log

Job Site/ Address: BO&T Old Office
211 Railroad Avenue, Blue Lake, California, 95525

SounPacific Environmental Services (707) 269-0884

Client	Boring No.
Dave & Christina Fisch	MW-5
Job#: SP-23	**Sheet**
Date: 2/16/2006	2 0f 6



DRILLER INFORMATION		PROJECT INFORMATION	
Drilling Co.:	Fisch Environmental	**Project Manager:**	ML
Rig Operator:	Dave Fisch	**Geologist:**	ML
Drilling Method:	Continuous Core	**Sampler:**	JS
Drill Rig Type:	Direct-Push	**Sampling Method:**	
Approximate Initial Water Level	5.39 feet bgs	**Time Start:**	N/A
		Time Stop:	N/A
Approximate Stabilized Water Level	N/A	**Boring Diameter:**	2.25 inch
		Boring Depth:	30 Feet

Northing: N/A **Easting:** N/A **Elevation:** N/A

PID Reading (ppm)	Depth to Water (feet bgs)	Water Level	DEPTH (feet)	SOIL SAMPLE LOCATION	Graphic Representation: GRAVEL	FINES	SANDS	GROUP	SYMBOL	FIELD NOTES
			0					F/G		**0-1' Concrete / Base (Fill)**
			1					ML		**1-4' Silt** dark brown, greyish brown mottles common, stiff, few organics, no odor
			2							
			3							
0 ppm			4	*						**4-30' No Recovery**
			5							
			6							
			7							
			8							
			9							
			10							
			11							
			12					–	Unknown	
			13							
			14							
			15							
			16							
			17							
			18							
			30							

Comments: Initial groundwater at 5.39 ft. Groundwater sample at 8 ft: Turbidity: High. Color: Light grey. No groundwater or soil samples at 10, 20, and 30 ft. No recovery past 4 ft. No hydrocarbon odor detected. Monitoring well depth is 13 ft with the screen interval from 3-13 feet below TOC.

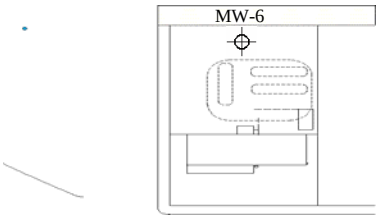
Boring Log

Job Site/ Address: BO&T Old Office
211 Railroad Avenue, Blue Lake, California, 95525

SounPacific Environmental Services (707) 269-0884

Client	Boring No.
Dave & Christina Fisch	MW-6
Job#: SP-23	**Sheet**
Date: 2/16/2006	3 of 6

Site Map and Location of Boring



DRILLER INFORMATION		PROJECT INFORMATION	
Drilling Co.:	Fisch Environmental	**Project Manager:**	ML
Rig Operator:	Dave Fisch	**Geologist:**	ML
Drilling Method:	Continuous Core	**Sampler:**	JS
Drill Rig Type:	Direct-Push	**Sampling Method:**	
Approximate Initial Water Level	4.38 feet bgs	**Time Start:**	N/A
		Time Stop:	N/A
Approximate Stabilized Water Level	N/A	**Boring Diameter:**	2.25 inch
		Boring Depth:	30 Feet

Northing: N/A **Easting:** N/A **Elevation:** N/A

PID Reading (ppm)	Depth to Water (feet bgs)	Water Level	DEPTH (feet)	SOIL SAMPLE LOCATION	Graphic Representation: GRAVEL	FINES	SANDS	GROUP	SYMBOL	FIELD NOTES
			0					F/G		**0-1' Concrete / Base (Fill)**
			1					ML		**1-6' Silt** dark brown, reddish brown towards bottom, mottles common, stiff, few roots, few pea size pebbles, organics, no odor
			2							
			3							
0 ppm		▽	4	*						
			5							
			6					SP/SM		**6-7' Silty Sand to Sandy Silt** dark grey, moist, pea size pebbles, no odor
0 ppm			7	*				ML		**7-8' Clayey Silt** greyish brown, mottles common with lenses of coarse sand, slightly moist, no odor
0 ppm			8	*						**Bottom of logging at 8'**
			9							**Unknown**
			10							
			11							
			12							
			13							
			14					–	Unknown	
			15							
			16							
			17							
			18							
			30							

Comments: Initial groundwater at 4.38 ft. Groundwater samples at 8 and 30 ft: Turbidity: Medium. Color: Brownish grey. No groundwater sample at 20 ft. No hydrocarbon odor detected. No soil samples taken at 10, 20, and 30 ft. Monitoring well depth is 13 ft with the screen interval from 3-13 feet below TOC.

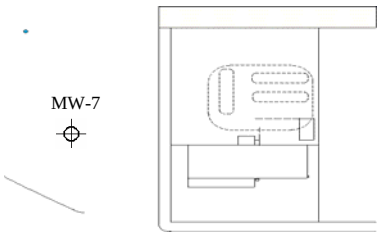
Boring Log

Job Site/ Address: BO&T Old Office
211 Railroad Avenue, Blue Lake, California, 95525

SounPacific Environmental Services (707) 269-0884

Client	Boring No.
Dave & Christina Fisch	MW-7
Job#: SP-23	**Sheet**
Date: 2/15/2006	4 of 6

Site Map and Location of Boring



DRILLER INFORMATION		PROJECT INFORMATION	
Drilling Co.:	Fisch Environmental	**Project Manager:**	ML
Rig Operator:	Dave Fisch	**Geologist:**	ML
Drilling Method:	Continuous Core	**Sampler:**	JS
Drill Rig Type:	Direct-Push	**Sampling Method:**	
Approximate Initial Water Level	4.20 feet bgs	**Time Start:**	N/A
		Time Stop:	N/A
Approximate Stabilized Water Level	N/A	**Boring Diameter:**	2.25 inch
		Boring Depth:	30 Feet

Northing: N/A **Easting:** N/A **Elevation:** N/A

PID Reading (ppm)	Depth to Water (feet bgs)	Water Level	DEPTH (feet)	SOIL SAMPLE LOCATION	Graphic Representation: GRAVEL	FINES	SANDS	GROUP	SYMBOL	FIELD NOTES
			0					ML		**0-4.5' Silt** dark brown, slightly moist, reddish brown towards bottom, light to dark grey mottles common, few roots, no odor
			1							
			2							
			3							
		▽	4							
0 ppm				*						
			5					SM		**4.5-5' Silty Sand** brownish grey, poorly sorted, wet, pea size pebbles, no odor
0 ppm			6	*				ML		**5-6' Sandy Silt** brownish grey, mottles common, few roots, moist, no odor
			7					ML		**6-8' Silt** dark brown to greyish brown, stiff, reddish brown mottles, no odor
0 ppm			8	*						**Bottom of logging at 8'**
			9							**8-30' Unknown**
			10							
			11							
			12							
			13							
			14					–	Unknown	
			15							
			16							
			17							
			18							
			30							

Comments: Initial groundwater at 4.20 ft. Groundwater samples at 8 and 20 ft: Turbidity: Medium to high. Color: Brownish grey. No groundwater sample at 10 and 30 ft. No hydrocarbon odor detected. No soil samples taken at 10, 20, and 30 ft. Monitoring well depth is 13 ft with the screen interval from 3-13 feet below TOC.

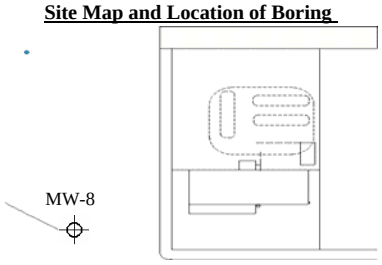
Boring Log

Job Site/ Address: BO&T Old Office
211 Railroad Avenue, Blue Lake, California, 95525

SounPacific Environmental Services (707) 269-0884

Client	Boring No.
Dave & Christina Fisch	MW-8
Job#: SP-23	**Sheet**
Date: 2/15/2006	5 of 6

Site Map and Location of Boring



DRILLER INFORMATION		PROJECT INFORMATION	
Drilling Co.:	Fisch Environmental	**Project Manager:**	ML
Rig Operator:	Dave Fisch	**Geologist:**	ML
Drilling Method:	Continuous Core	**Sampler:**	JS
Drill Rig Type:	Direct-Push	**Sampling Method:**	
Approximate Initial Water Level	4.15 feet bgs	**Time Start:**	N/A
		Time Stop:	N/A
Approximate Stabilized Water Level	N/A	**Boring Diameter:**	2.25 inch
		Boring Depth:	30 Feet

Northing: N/A **Easting:** N/A **Elevation:** N/A

PID Reading (ppm)	Depth to Water (feet bgs)	Water Level	DEPTH (feet)	SOIL SAMPLE LOCATION	Graphic Representation: GRAVEL	FINES	SANDS	GROUP	SYMBOL	FIELD NOTES
			0					ML		**0-4.5' Silt** dark brown, slightly moist at 4', some light to dark grey mottles, few roots, no odor
			1							
			2							
			3							
		▽	4							
0 ppm				*						
			5					SM		**4.5-5' Silty Sand** brownish grey, poorly sorted, wet, pea size pebbles, some roots, loose, no odor
			6					ML		**5-6' Sandy Silt** brownish grey, mottles common, few roots, moist, no odor
0 ppm				*						
			7					ML		**6-8' Silt** dark brown to greyish brown, stiff, reddish brown mottles, no odor
			8							**Bottom of logging at 8'**
0 ppm				*						**8-30' Unknown**
			9							
			10							
			11							
			12							
			13							
			14					–	Unknown	
			15							
			16							
			17							
			18							
			30							

Comments: Initial groundwater at 4.15 ft. Groundwater samples at 8, 20, and 30 ft: Turbidity: Medium. Color: Brownish grey. No groundwater sample at 10 ft. No soil samples taken at 10, 20, or 30 ft. No hydrocarbon odor detected. Monitoring well depth is 13 ft with the screen interval from 3-13 feet below TOC.

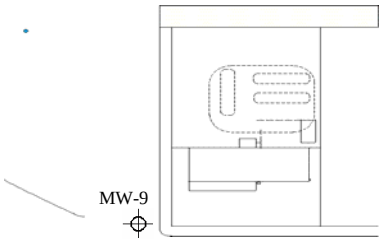
Boring Log

Job Site/ Address: BO&T Old Office
211 Railroad Avenue, Blue Lake, California, 95525

SounPacific Environmental Services (707) 269-0884

Client	Boring No.
Dave & Christina Fisch	MW-9
Job#: SP-23	**Sheet**
Date: 2/15/2006	6 of 6

Site Map and Location of Boring



DRILLER INFORMATION		PROJECT INFORMATION	
Drilling Co.:	Fisch Environmental	**Project Manager:**	ML
Rig Operator:	Dave Fisch	**Geologist:**	ML
Drilling Method:	Continuous Core	**Sampler:**	JS
Drill Rig Type:	Direct-Push	**Sampling Method:**	
Approximate Initial Water Level	N/A	**Time Start:**	N/A
		Time Stop:	N/A
Approximate Stabilized Water Level	N/A	**Boring Diameter:**	2.25 inch
		Boring Depth:	30 Feet

Northing: N/A **Easting:** N/A **Elevation:** N/A

PID Reading (ppm)	Depth to Water (feet bgs)	Water Level	DEPTH (feet)	SOIL SAMPLE LOCATION	Graphic Representation: GRAVEL	FINES	SANDS	GROUP	SYMBOL	FIELD NOTES
			0					ML		**0-4' Silt** dark brown, slightly moist, few greyish brown mottles, few roots, no odor
			1							
			2							
			3							
0 ppm			4	*				SM		**4-5' Silty Sand** brownish grey, poorly sorted, moist, pea size pebbles, some roots, loose, no odor
			5					ML		**5-6' Sandy Silt** brownish grey, mottles common, few roots, no odor
0 ppm			6	*				ML		**6-8' Silt** dark brown to greyish brown, stiff, mottles common, slightly moist, no odor
			7							
0 ppm			8	*				–	Unknown	**Bottom of logging at 8'** **8-30' Unknown**
			9							
			10							
			11							
			12							
			13							
			14							
			15							
			16							
			17							
			18							
			30							

Comments: No groundwater encountered (dry hole). Unable to take discreet soil samples at 10, 20, and 30, ft. No hydrocarbon odor detected. Monitoring well depth is 13 ft with the screen interval from 3-13 feet below TOC.

Appendix B

basic
laboratory

www.basiclab.com

voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

March 09, 2006

Lab ID: 6020806

Marty Larsen
SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
RE: BO&T OLD OFFICE SP-23

Dear Marty Larsen,

Enclosed are the analysis results for Work Order number 6020806. All analysis were performed under strict adherence to our established Quality Assurance Plan. Any abnormalities are listed in the qualifier section of this report.

If you have any questions regarding these results, please feel free to contact us at any time. We appreciate the opportunity to service your environmental testing needs.

Sincerely,

For

Ricky D. Jensen
Laboratory Director
California ELAP Certification Number 1677

basic laboratory
www.basiclab.com
voice 530.243.7234 fax 530.243.7494
2218 Railroad Avenue
Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
Attention: Marty Larsen
Project: BO&T OLD OFFICE SP-23

Lab No: 6020806
Reported: 03/09/06
Phone: 707-269-0884
P.O. #

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-5 GW @ 8' Water (6020806-17) Sampled:02/16/06 00:00 Received:02/24/06 14:53									
Gasoline	ug/l	**292**			50.0	EPA 8015/8260	02/28/06	02/28/06	B6C0018
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	**500**	R-01		20.0	"	03/01/06	"	"
Di-isopropyl ether	"	ND			0.5	"	02/28/06	"	"
Tert-amyl methyl ether	"	**3.6**			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*94.8 %*		*43-155*		"	"	"	"
MW-6 GW @ 8' Water (6020806-18) Sampled:02/16/06 00:00 Received:02/24/06 14:53									
Gasoline	ug/l	ND			50.0	EPA 8015/8260	02/28/06	02/28/06	B6C0018
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	**2.0**			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	ND			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*96.2 %*		*43-155*		"	"	"	"
MW-6 GW @ 30' Water (6020806-19) Sampled:02/16/06 00:00 Received:02/24/06 14:53									
Gasoline	ug/l	ND	Z-01		50.0	EPA 8015/8260	02/28/06	02/28/06	B6C0018
Benzene	"	ND	Z-01		0.5	"	"	"	"
Toluene	"	ND	Z-01		0.5	"	"	"	"
Ethylbenzene	"	ND	Z-01		0.5	"	"	"	"
Xylenes (total)	"	ND	Z-01		1.0	"	"	"	"
Methyl tert-butyl ether	"	ND	Z-01		1.0	"	"	"	"
Di-isopropyl ether	"	ND	Z-01		0.5	"	"	"	"
Tert-amyl methyl ether	"	ND	Z-01		0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND	Z-01		0.5	"	"	"	"
Tert-butyl alcohol	"	ND	Z-01		50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*99.6 %*	*Z-01*	*43-155*		"	"	"	"
MW-7 GW @ 8' Water (6020806-20) Sampled:02/15/06 00:00 Received:02/24/06 14:53									
Gasoline	ug/l	ND			50.0	EPA 8015/8260	02/28/06	02/28/06	B6C0018
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	**3.2**			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	ND			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*98.2 %*		*43-155*		"	"	"	"
MW-7 GW @ 20' Water (6020806-21) Sampled:02/15/06 00:00 Received:02/24/06 14:53									
Gasoline	ug/l	**243**			50.0	EPA 8015/8260	02/28/06	02/28/06	B6C0018
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"

Approved By

Basic Laboratory, Inc.
California D.O.H.S. Cert #1677

basic laboratory
www.basiclab.com
voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
Attention: Marty Larsen
Project: BO&T OLD OFFICE SP-23

Lab No: 6020806
Reported: 03/09/06
Phone: 707-269-0884
P.O. #

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-7 GW @ 20' Water (6020806-21) Sampled:02/15/06 00:00 Received:02/24/06 14:53									
Ethylbenzene	"	ND			0.5	"	"	02/28/06	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	**360**	I-04, R-01		20.0	"	03/01/06	"	"
Di-isopropyl ether	"	ND			0.5	"	02/28/06	"	"
Tert-amyl methyl ether	"	**1.9**			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*97.4 %*		*43-155*		"	"	"	"
MW-8 GW @ 8' Water (6020806-22) Sampled:02/15/06 00:00 Received:02/24/06 14:53									
Gasoline	ug/l	ND			50.0	EPA 8015/8260	02/28/06	02/28/06	B6C0018
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	ND			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	ND			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*97.0 %*		*43-155*		"	"	"	"
MW-8 GW @ 20' Water (6020806-23) Sampled:02/15/06 00:00 Received:02/24/06 14:53									
Gasoline	ug/l	ND			50.0	EPA 8015/8260	02/28/06	02/28/06	B6C0018
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	ND			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	ND			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*98.6 %*		*43-155*		"	"	"	"
MW-8 GW @ 30' Water (6020806-24) Sampled:02/15/06 00:00 Received:02/24/06 14:53									
Gasoline	ug/l	ND			50.0	EPA 8015/8260	02/28/06	02/28/06	B6C0018
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	ND			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	ND			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*103 %*		*43-155*		"	"	"	"
B-26 GW @ 8' Water (6020806-25) Sampled:02/16/06 00:00 Received:02/24/06 14:53									
Gasoline	ug/l	ND			50.0	EPA 8015/8260	02/28/06	02/28/06	B6C0018
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	ND			1.0	"	"	"	"

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Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
Attention: Marty Larsen
Project: BO&T OLD OFFICE SP-23

Lab No: 6020806
Reported: 03/09/06
Phone: 707-269-0884
P.O. #

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
B-26 GW @ 8' Water (6020806-25) Sampled:02/16/06 00:00 Received:02/24/06 14:53									
Di-isopropyl ether	"	ND			0.5	"	"	02/28/06	"
Tert-amyl methyl ether	"	ND			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*97.2 %*			*43-155*	"	"	"	"
B-26 GW @ 20' Water (6020806-26) Sampled:02/16/06 00:00 Received:02/24/06 14:53									
Gasoline	ug/l	ND			50.0	EPA 8015/8260	02/28/06	02/28/06	B6C0018
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	ND			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	ND			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*97.2 %*			*43-155*	"	"	"	"

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KNEELAND, CA 95549
Attention: Marty Larsen
Project: BO&T OLD OFFICE SP-23

Lab No: 6020806
Reported: 03/09/06
Phone: 707-269-0884
P.O. #

Volatile Organic Compounds - Solid

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-5 @ 4' Soil (6020806-01) Sampled:02/16/06 00:00 Received:02/24/06 14:53									
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"
Ethylbenzene	"	ND	I-06		0.0050	"	"	"	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*80.6 %*	*I-06*	*39-128*		"	"	"	"
MW-6 @ 4' Soil (6020806-02) Sampled:02/16/06 00:00 Received:02/24/06 14:53									
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"
Ethylbenzene	"	ND	I-06		0.0050	"	"	"	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*76.6 %*	*I-06*	*39-128*		"	"	"	"
MW-6 @ 6' Soil (6020806-03) Sampled:02/16/06 00:00 Received:02/24/06 14:53									
Gasoline	mg/kg	ND	QI-02		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	QI-02		0.0050	"	"	"	"
Toluene	"	ND	QI-02		0.0050	"	"	"	"
Ethylbenzene	"	ND	QI-02		0.0050	"	"	"	"
Xylenes (total)	"	ND	QI-02		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	QI-02		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	QI-02		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	QI-02		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	QI-02		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	QI-02		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*83.6 %*	*QI-02*	*39-128*		"	"	"	"
MW-6 @ 8' Soil (6020806-04) Sampled:02/16/06 00:00 Received:02/24/06 14:53									
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"
Ethylbenzene	"	ND	I-06		0.0050	"	"	"	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	**0.0144**	I-06		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*84.4 %*	*I-06*	*39-128*		"	"	"	"
MW-7 @ 4' Soil (6020806-05) Sampled:02/15/06 00:00 Received:02/24/06 14:53									
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"

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Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
Attention: Marty Larsen
Project: BO&T OLD OFFICE SP-23

Lab No: 6020806
Reported: 03/09/06
Phone: 707-269-0884
P.O. #

Volatile Organic Compounds - Solid

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-7 @ 4' Soil (6020806-05)	**Sampled:02/15/06 00:00**		**Received:02/24/06 14:53**						
Ethylbenzene	"	ND	I-06		0.0050	"	"	02/27/06	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*84.2 %*	*I-06*	*39-128*		"	"	"	"
MW-7 @ 7' Soil (6020806-06)	**Sampled:02/15/06 00:00**		**Received:02/24/06 14:53**						
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"
Ethylbenzene	"	ND	I-06		0.0050	"	"	"	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*86.0 %*	*I-06*	*39-128*		"	"	"	"
MW-7 @ 8' Soil (6020806-07)	**Sampled:02/15/06 00:00**		**Received:02/24/06 14:53**						
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"
Ethylbenzene	"	ND	I-06		0.0050	"	"	"	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*88.0 %*	*I-06*	*39-128*		"	"	"	"
MW-8 @ 4' Soil (6020806-08)	**Sampled:02/15/06 00:00**		**Received:02/24/06 14:53**						
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"
Ethylbenzene	"	ND	I-06		0.0050	"	"	"	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*77.8 %*	*I-06*	*39-128*		"	"	"	"
MW-8 @ 6' Soil (6020806-09)	**Sampled:02/15/06 00:00**		**Received:02/24/06 14:53**						
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"
Ethylbenzene	"	ND	I-06		0.0050	"	"	"	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"

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Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
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Attention: Marty Larsen
Project: BO&T OLD OFFICE SP-23

Lab No: 6020806
Reported: 03/09/06
Phone: 707-269-0884
P.O. #

Volatile Organic Compounds - Solid

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-8 @ 6' Soil (6020806-09)	**Sampled:02/15/06 00:00**		**Received:02/24/06 14:53**						
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	02/27/06	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*80.8 %*	*I-06*	*39-128*		"	"	"	"
MW-8 @ 8' Soil (6020806-10)	**Sampled:02/15/06 00:00**		**Received:02/24/06 14:53**						
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"
Ethylbenzene	"	ND	I-06		0.0050	"	"	"	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*81.2 %*	*I-06*	*39-128*		"	"	"	"
MW-9 @ 4' Soil (6020806-11)	**Sampled:02/15/06 00:00**		**Received:02/24/06 14:53**						
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"
Ethylbenzene	"	ND	I-06		0.0050	"	"	"	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*79.4 %*	*I-06*	*39-128*		"	"	"	"
MW-9 @ 6' Soil (6020806-12)	**Sampled:02/15/06 00:00**		**Received:02/24/06 14:53**						
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"
Ethylbenzene	"	ND	I-06		0.0050	"	"	"	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*81.0 %*	*I-06*	*39-128*		"	"	"	"
MW-9 @ 8' Soil (6020806-13)	**Sampled:02/15/06 00:00**		**Received:02/24/06 14:53**						
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"
Ethylbenzene	"	ND	I-06		0.0050	"	"	"	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"

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Lab No: 6020806
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Volatile Organic Compounds - Solid

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-9 @ 8' Soil (6020806-13) Sampled:02/15/06 00:00 Received:02/24/06 14:53									
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	02/27/06	"
Surrogate: 4-Bromofluorobenzene		*80.0 %*	*I-06*		*39-128*	"	"	"	"
B-26 @ 4' Soil (6020806-14) Sampled:02/16/06 00:00 Received:02/24/06 14:53									
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"
Ethylbenzene	"	ND	I-06		0.0050	"	"	"	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*81.4 %*	*I-06*		*39-128*	"	"	"	"
B-26 @ 6' Soil (6020806-15) Sampled:02/16/06 00:00 Received:02/24/06 14:53									
Gasoline	mg/kg	ND			0.0600	EPA 8015/8260	03/01/06	02/28/06	B6B0659
Benzene	"	ND			0.0050	"	"	"	"
Toluene	"	ND			0.0050	"	"	"	"
Ethylbenzene	"	ND			0.0050	"	"	"	"
Xylenes (total)	"	ND			0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND			0.0050	"	"	"	"
Di-isopropyl ether	"	ND			0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND			0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.0050	"	"	"	"
Tert-butyl alcohol	"	ND			0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*82.6 %*			*39-128*	"	"	"	"
B-26 @ 8' Soil (6020806-16) Sampled:02/16/06 00:00 Received:02/24/06 14:53									
Gasoline	mg/kg	ND	I-06		0.0600	EPA 8015/8260	02/27/06	02/27/06	B6B0659
Benzene	"	ND	I-06		0.0050	"	"	"	"
Toluene	"	ND	I-06		0.0050	"	"	"	"
Ethylbenzene	"	ND	I-06		0.0050	"	"	"	"
Xylenes (total)	"	ND	I-06		0.0050	"	"	"	"
Methyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Di-isopropyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-amyl methyl ether	"	ND	I-06		0.0050	"	"	"	"
Ethyl tert-butyl ether	"	ND	I-06		0.0050	"	"	"	"
Tert-butyl alcohol	"	ND	I-06		0.0500	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*88.8 %*			*39-128*	"	"	"	"

Approved By

Basic Laboratory, Inc.
California D.O.H.S. Cert #1677

basic laboratory

www.basiclab.com

voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
Attention: Marty Larsen
Project: BO&T OLD OFFICE SP-23

Lab No: 6020806
Reported: 03/09/06
Phone: 707-269-0884
P.O. #

Notes and Definitions

Z-01	The sample was received at a pH of 3, and does not meet the preservation criteria (pH<2). It was received past the seven day hold time for unpreserved samples.
R-01	The Reporting Limit and Detection Limit for this analyte have been raised due to necessary sample dilution.
QI-02	Internal standard responses were outside control limits due to matrix effect. Re-analysis was not performed due to insufficient sample volume.
I-06	Internal standard areas did not meet the minimum response criteria due to the matrix, which was confirmed by re-analysis.
I-04	Sample was re-analyzed past the EPA recommended hold time.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
<	Less than reporting limit
≤	Less than or equal to reporting limit
>	Greater than reporting limit
≥	Greater than or equal to reporting limit
MDL	Method Detection Limit
RL/ML	Minimum Level of Quantitation
MCL/AL	Maxium Contaminant Level/Action Level
mg/kg	Results reported as wet weight
TTLC	Total Threshold Limit Concentration
STLC	Soluble Threshold Limit Concentration
TCLP	Toxicity Characteristic Leachate Procedure

Approved By
Basic Laboratory, Inc.
California D.O.H.S. Cert #1677

BASIC LABORATORY CHAIN OF CUSTODY RECORD

2218 Railroad Ave., Redding, CA 96001 (530) 243-7234 FAX (530) 243-7494

LAB #: 6020806

CLIENT NAME: Sun Pacific

PROJECT NAME: BO&T offic

PROJECT #: Sp-23

SAMPLE TYPE: W / S

ADDRESS: P.O. Box 13, Kneeland, CA 95549

REQUESTED COMP. DATE: 3-10-06

STATE FORMS? ☐

OF SAMPLES: 26

TURN AROUND TIME: STD ☒ RUSH ☐

PAGE 1 OF 2

PROJECT MANAGER: Marty Larsen

PHONE: (707) 264-0884 FAX: (707) 269-0899 E-MAIL:

INVOICE TO: Sun Pacific PO#:

SPECIAL MAIL ☐ E-MAIL ☒ FAX ☐ EDT ☒

REP:

ID#:

SYSTEM#:

GLOBAL ID #: T0602300480 6

QC = 1 2 3 4

DATE	TIME	WATER	COMP	SOIL	SAMPLE DESCRIPTION	# OF BOTTLES	TPH-g	BTEX	5-Oxys	LAB ID	REMARKS
					Feb Drilling Event						
2/16/06				X	MW-5 @ 4'	3				1	
					MW-6 @ 4'					2	
					MW-6 @ 6'					3	
					MW-6 @ 8'					4	
2/15/06					MW-7 @ 4'					5	
					MW-7 @ 6'					6	
					MW-7 @ 8'					7	
					MW-8 @ 4'	2				8	
					MW-8 @ 6'	3				9	
					MW-8 @ 8'					10	
					MW-9 @ 4'					11	
					MW-9 @ 6'					12	
					MW-9 @ 8'					13	
2/16/06					B-26 @ 4'					14	
					B-26 @ 6'					15	
					B-26 @ 8'					16	

PRESERVED WITH: HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ ZnAce/NaOH ☐ HCL ☐ NaThio ☐ OTHER Ice

SAMPLED BY: Marty Larsen	DATE/TIME:	RELINQUISHED BY:	DATE/TIME:
RECEIVED BY: Jeff Cano	DATE/TIME: 2/22/06	RELINQUISHED BY: Jeff Cano	DATE/TIME: 2/22/06
RECEIVED BY: (SAMPLES UNVERIFIED)	DATE/TIME:	RELINQUISHED BY:	DATE/TIME:
RECEIVED BY LAB: (VERIFIED) Tiemny J O'Cain	DATE/TIME: 2-24-06 14:53	SAMPLES SHIPPED VIA: (UPS) FEDEX POST BUS OTHER	

INSTRUCTIONS, TERMS AND CONDITIONS ON BACK.

BASIC LABORATORY CHAIN OF CUSTODY RECORD

2218 Railroad Ave., Redding, CA 96001 (530) 243-7234 FAX (530) 243-7494

LAB #: 6020806

CLIENT NAME: Sour Pacific	PROJECT NAME: BOET office	PROJECT #: SP-23	SAMPLE TYPE: S/W
ADDRESS: P.O Box 13, Kneeland, CA 95549	REQUESTED COMP. DATE: 3-10-06	STATE FORMS? ☐	# OF SAMPLES: 26
	TURN AROUND TIME: STD ☒ RUSH ☐		PAGE 2 OF 2
PROJECT MANAGER: Marty Larsen			
PHONE: (707) 269-0884	FAX: (707) 269-0699	E-MAIL:	
INVOICE TO: Sour Pacific		PO#:	
SPECIAL MAIL ☐ E-MAIL ☒ FAX ☐ EDT ☒			

DATE	TIME	WATER	COMP	SOIL	SAMPLE DESCRIPTION	# OF BOTTLES	TPHg	BTEX	5-oxys	LAB ID
2/16/06		X			MW-5(GW) @ 8'	3				17
↓		↓			MW-6(GW) @ 8'	↓	↓	↓	↓	18
↓		↓			MW-6(GW) @ 30'	↓	↓	↓	↓	19
2/17/06		↓			MW-7(GW) @ 8'	↓	↓	↓	↓	20
↓		↓			MW-7(GW) @ 20'	↓	↓	↓	↓	21
↓		↓			MW-8(GW) @ 8'	↓	↓	↓	↓	22
↓		↓			MW-8 (GW) @ 20'	↓	↓	↓	↓	23
↓		↓			MW-8 (GW) @ 30'	↓	↓	↓	↓	24
2/16/06		↓			B-26(GW) @ 8'	↓	↓	↓	↓	25
↓		↓			B-26(GW) @ 20'	↓	↓	↓	↓	26
↓										
					E:mail greg@sourpacific.com					

GLOBAL ID #: T0602300480

QC = 1 2 3 4

REP: / ID#: / SYSTEM#:

REMARKS

PRESERVED WITH: HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ ZnAce/NaOH ☐ HCL ☒ NaThio ☐ OTHER ICE

SAMPLED BY: Sarah Sheahan	DATE/TIME: 2/17/06	RELINQUISHED BY: Jeff Carter	DATE/TIME: 2/22/06
RECEIVED BY:	DATE/TIME:	RELINQUISHED BY:	DATE/TIME:
RECEIVED BY: (SAMPLES UNVERIFIED)	DATE/TIME:	RELINQUISHED BY:	DATE/TIME:
RECEIVED BY LAB: (VERIFIED) Jenny J. Ochoa	DATE/TIME: 2-24-06 14:53	SAMPLES SHIPPED VIA: (UPS) FEDEX POST BUS OTHER	

INSTRUCTIONS, TERMS AND CONDITIONS ON BACK.

Appendix C

basic laboratory

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voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

March 23, 2006

Lab ID: 6030549

Andy Malone
SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
RE: BO&T OLD OFFICE SP-23

Dear Andy Malone,

Enclosed are the analysis results for Work Order number 6030549. All analysis were performed under strict adherence to our established Quality Assurance Plan. Any abnormalities are listed in the qualifier section of this report.

If you have any questions regarding these results, please feel free to contact us at any time. We appreciate the opportunity to service your environmental testing needs.

Sincerely,

For

Ricky D. Jensen
Laboratory Director
California ELAP Certification Number 1677

basic laboratory
www.basiclab.com
voice 530.243.7234 2218 Railroad Avenue
fax 530.243.7494 Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
Attention: Andy Malone
Project: BO&T OLD OFFICE SP-23

Lab No: 6030549
Reported: 03/23/06
Phone: 707-269-0884
P.O. #

Metals - Total

Analyte		Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-5 Water (6030549-01)		**Sampled:03/10/06 00:00**		**Received:03/15/06 11:24**						
Lead		ug/l	**26**	QR-04		15	EPA 6010A	03/22/06	03/21/06	B6C0544
MW-6 Water (6030549-02)		**Sampled:03/10/06 00:00**		**Received:03/15/06 11:24**						
Lead		ug/l	**21**	QR-04		15	EPA 6010A	03/22/06	03/21/06	B6C0544
MW-7 Water (6030549-03)		**Sampled:03/10/06 00:00**		**Received:03/15/06 11:24**						
Lead		ug/l	**51**	QR-04		15	EPA 6010A	03/22/06	03/21/06	B6C0544
MW-8 Water (6030549-04)		**Sampled:03/10/06 00:00**		**Received:03/15/06 11:24**						
Lead		ug/l	**35**	QR-04		15	EPA 6010A	03/22/06	03/21/06	B6C0544
MW-9 Water (6030549-05)		**Sampled:03/10/06 00:00**		**Received:03/15/06 11:24**						
Lead		ug/l	**26**	QR-04		15	EPA 6010A	03/22/06	03/21/06	B6C0544

Approved By
Basic Laboratory, Inc.
California D.O.H.S. Cert #1677

basic laboratory
www.basiclab.com
voice 530.243.7234 fax 530.243.7494
2218 Railroad Avenue
Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
Attention: Andy Malone
Project: BO&T OLD OFFICE SP-23

Lab No: 6030549
Reported: 03/23/06
Phone: 707-269-0884
P.O. #

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-5 Water (6030549-01) Sampled:03/10/06 00:00 Received:03/15/06 11:24									
Gasoline	ug/l	**82.7**	G-03		50.0	EPA 8015/8260	03/15/06	03/15/06	B6C0436
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	**122**	R-01		5.0	"	03/15/06	"	"
Di-isopropyl ether	"	ND			0.5	"	03/15/06	"	"
Tert-amyl methyl ether	"	**1.0**			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*89.6 %*		*43-155*		"	"	"	"
MW-6 Water (6030549-02) Sampled:03/10/06 00:00 Received:03/15/06 11:24									
Gasoline	ug/l	ND			50.0	EPA 8015/8260	03/15/06	03/15/06	B6C0436
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	**37.5**			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	ND			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*87.6 %*		*43-155*		"	"	"	"
MW-7 Water (6030549-03) Sampled:03/10/06 00:00 Received:03/15/06 11:24									
Gasoline	ug/l	**51.8**	G-03		50.0	EPA 8015/8260	03/15/06	03/15/06	B6C0436
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	**79.7**			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	ND			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*89.6 %*		*43-155*		"	"	"	"
MW-8 Water (6030549-04) Sampled:03/10/06 00:00 Received:03/15/06 11:24									
Gasoline	ug/l	ND			50.0	EPA 8015/8260	03/15/06	03/15/06	B6C0436
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"
Ethylbenzene	"	ND			0.5	"	"	"	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	**2.5**			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	ND			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*85.8 %*		*43-155*		"	"	"	"
MW-9 Water (6030549-05) Sampled:03/10/06 00:00 Received:03/15/06 11:24									
Gasoline	ug/l	ND			50.0	EPA 8015/8260	03/15/06	03/15/06	B6C0436
Benzene	"	ND			0.5	"	"	"	"
Toluene	"	ND			0.5	"	"	"	"

Approved By

Basic Laboratory, Inc.
California D.O.H.S. Cert #1677

basic laboratory
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voice 530.243.7234 fax 530.243.7494
2218 Railroad Avenue
Redding, California 96001

Report To: SOUNPACIFIC
4612 GREENWOOD HEIGHTS DR
KNEELAND, CA 95549
Attention: Andy Malone
Project: BO&T OLD OFFICE SP-23

Lab No: 6030549
Reported: 03/23/06
Phone: 707-269-0884
P.O. #

Volatile Organic Compounds

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
MW-9 Water (6030549-05)	**Sampled:03/10/06 00:00**	**Received:03/15/06 11:24**							
Ethylbenzene	"	ND			0.5	"	"	03/15/06	"
Xylenes (total)	"	ND			1.0	"	"	"	"
Methyl tert-butyl ether	"	ND			1.0	"	"	"	"
Di-isopropyl ether	"	ND			0.5	"	"	"	"
Tert-amyl methyl ether	"	ND			0.5	"	"	"	"
Ethyl tert-butyl ether	"	ND			0.5	"	"	"	"
Tert-butyl alcohol	"	ND			50.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		*85.2 %*		*43-155*		"	"	"	"

Notes and Definitions

R-01	The Reporting Limit and Detection Limit for this analyte have been raised due to necessary sample dilution.
QR-04	Duplicate results are within one reporting limit and pass all necessary QC criteria.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). The J flag is equivalent to the DNQ Estimated Concentration flag.
G-03	The GRO result reported for this sample does not match the laboratory's gasoline standard, but is due primarily to MTBE.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
<	Less than reporting limit
≤	Less than or equal to reporting limit
>	Greater than reporting limit
≥	Greater than or equal to reporting limit
MDL	Method Detection Limit
RL/ML	Minimum Level of Quantitation
MCL/AL	Maxium Contaminant Level/Action Level
mg/kg	Results reported as wet weight
TTLC	Total Threshold Limit Concentration
STLC	Soluble Threshold Limit Concentration
TCLP	Toxicity Characteristic Leachate Procedure

Approved By

Basic Laboratory, Inc.
California D.O.H.S. Cert #1677

BASIC LABORATORY CHAIN OF CUSTODY RECORD

2218 Railroad Ave., Redding, CA 96001 (530) 243-7234 FAX (530) 243-7494

LAB #: 6030549

CLIENT NAME: SanPacific	PROJECT NAME: Bost old office	PROJECT #: SP23	SAMPLE TYPE: W
ADDRESS: PO Box 13 Kneeland, CA 95549	REQUESTED COMP. DATE: 3-29-06	STATE FORMS? ☐	# OF SAMPLES: 5
	TURN AROUND TIME: STD ☒ RUSH ☐		PAGE 1 OF 1
PROJECT MANAGER: Andy Malone			
PHONE: 707 269 0884	FAX: 707 269 0669	E-MAIL: andy@sanpacific.com	
INVOICE TO: SanPacific	PO#:		
SPECIAL MAIL ☐	E-MAIL ☒	FAX ☐	EDT ☒

DATE	TIME	WATER	COMP	SOIL	SAMPLE DESCRIPTION	# OF BOTTLES	ANALYSIS REQUESTED: 8260 → TPHg	BTXE	S-oxys	total Lead 6010B	LAB ID	REMARKS
3/10/06		X			well development Sampling							
					MW-5	4	X	X	X	X	1	
					MW-6						2	
					MW-7						3	
					MW-8						4	
					MW-9						5	

Also email, greg@sanpacific.com, dee@sanpacific.com

GLOBAL ID #: T0602300460

QC = 1 2 3 4

PRESERVED WITH: HNO_3 ☒ H_2SO_4 ☐ NaOH ☐ ZnAce/NaOH ☐ HCL ☒ NaThio ☐ OTHER ice

SAMPLED BY: Jeff Graves	DATE/TIME: 3/10/06	RELINQUISHED BY: Jeff Graves	DATE/TIME: 3/13/06
RECEIVED BY:	DATE/TIME:	RELINQUISHED BY:	DATE/TIME:
RECEIVED BY: (SAMPLES UNVERIFIED)	DATE/TIME:	RELINQUISHED BY:	DATE/TIME:
RECEIVED BY LAB: (VERIFIED) Tremaine Oldham	DATE/TIME: ~~1630~~ PST 11:24 3-15-06	SAMPLES SHIPPED VIA: (UPS) FEDEX POST BUS OTHER	

INSTRUCTIONS, TERMS AND CONDITIONS ON BACK.

Appendix D

SounPacific
Environmental Services
(707) 269-0884

Standard Operating Procedures

Groundwater Level Measurements and Free Phase Hydrocarbon Measurements

All SounPacific staff and contractors shall adopt the following procedures any time that groundwater elevations are determined for the purposes of establishing groundwater gradient and direction, and prior to any sampling event.

Wells are to be tested for free phase hydrocarbons (free product) before the first development or sampling of any new well, and in any well that has historically contained free product.

Equipment Checklist

- ❑ Combination water level / free phase hydrocarbon indicator probe (probe)
- ❑ Gauging Data / Purge Calculations Sheet
- ❑ Pencil or Pen/sharpie
- ❑ Disposable Gloves
- ❑ Distilled Water and or know water source on site that is clean
- ❑ Alconox (powder) or Liquinox (liquid) non-phosphate cleaners—do not use soap!
- ❑ Buckets or Tubs for decontamination station
- ❑ Tools necessary to access wells
- ❑ Site Safety Plan
- ❑ This Standard Operating Procedure
- ❑ Notify Job site business that you will be arriving to conduct work.

Procedure

1. Review Site Safety Plan and utilize personal protection appropriate for the contaminants that may be encountered.

2. Access and open all monitoring wells to be measured. Allow wells to equilibrate for approximately 15 minutes before taking any measurements.

3. Decontaminate probe with Alconox or Liquinox solution, and rinse with distilled water.

4. Determine the diameter of the well to be measured and indicate this on the Gauging Data / Purge Calculations Sheet.

5. Words of caution: Please be careful with water level and product meters probes are not attached with high strength material so please make sure to avoid catching the end on anything in the well and make sure not to wind reel to the point that it could pull on the probe. ***If product is suspect in a well, go to step 6, if no product is suspected go to step 7 below.***

6. **When product is present or suspected:** use the product level meter. Clip the static charge clamp to the side of the well casing. Then lower probe into the well through the product/water interface about one foot if possible. Then slowly raise the probe back up through the product/water interface layer and record the level as the tone changes from solid to broken-record this level in the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTP). Continue to raise the probe up through the product until the tone stops completely-record this level on the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTW). Then go to step 8.

7. **When no product is present or suspected:** If no free product is present, record the depth of the water (to the nearest 0.01 foot) relative to the painted black mark on the top of the well casing. Leave the probe in the well just a hair above the water level to ensure the well as equilibrated. As the well rises, the tone will sound. Make sure no increase in water levels have occurred in over a ten-minute period. Water levels can lower as well as rise. Make sure you note when the level you keep lowering the probe to has remained stable for at least ten minutes. Once this has been accomplished, please record this level in the Gauging Data / Purge Calculations Sheet to the nearest 0.01 foot (DTW).

8. Turn off the probe, and use the probe to determine the depth to the bottom of the well relative to the top of the well casing. This is the depth to bottom measurement (DTB).

9. Decontaminate probe and tape by washing in an Alconox/Liquinox solution ***(read directions on solution for ratio of water to cleanser)*** and use the toothbrush provided to remove any foreign substance from the probe and tape. Then triple rinse probe and tape with clean water and then proceed to take measurements in the next well.

10. If sampling is to occur, proceed to implement SounPacific's Standard Operating Procedure for Monitoring Well Purging and Sampling. If no sampling is to be performed, close and secure all wells and caps.

SounPacific
Environmental Services
(707) 269-0884

Standard Operating Procedures

Monitoring Well Purging and Groundwater Sampling

All SounPacific employees and contractors shall adopt the following procedures any time that groundwater samples are to be taken from an existing groundwater monitoring well.

Prior to the implementation of these procedures, the groundwater level **MUST** be measured and the presence of free phase hydrocarbons determined in accordance with SounPacific's Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements.

Equipment Checklist

- ❑ **Gauging Data / Purge Calculations Sheet used for water level determination**
- ❑ Chain of Custody Form
- ❑ pH/ Conductivity / Temperature meter
- ❑ Pencil or Pen
- ❑ Indelible Marker
- ❑ Calculator
- ❑ Disposable Gloves
- ❑ Distilled Water
- ❑ Alconox/liquinox liquid or powdered non-phosphate cleaner
- ❑ Buckets or Tubs for decontamination station
- ❑ Bottom-filling bailer or pumping device for purging
- ❑ Disposable bottom-filling bailer and emptying device for sampling
- ❑ String, twine or fishing line for bailers
- ❑ Sample containers appropriate for intended analytical method (check with lab)
- ❑ Sample labels
- ❑ Site Safety Plan
- ❑ Tools necessary to access wells
- ❑ Drum space on site adequate for sampling event

Procedure

1. Review Site Safety Plan and utilize personal protection appropriate for the contaminants that may be encountered.

2. Measure groundwater levels and check for the presence of free product in accordance with the Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements.

Purging

3. Calculate and record the volume of standing water in each well using the information provided on the Gauging Data / Purge Calculations sheet.
   (DTB-DTW) x Conversion Factor = Casing Volume.

4. The purge volume shall be at least three times and no more than seven times the volume of standing water (the casing volume).

5. Purge the well by bailing or pumping water from the well into a calibrated receptacle, such as a five gallon bucket or tub with markings to indicate one gallon increments. Collect purgeate in a 55 gallon labeled drum and store on site. Drum labels should include the date, contents, site number, and SounPacific's name and telephone number.

6. Take measurements of pH, conductivity, temperature, and visual observations to verify the stabilization of these parameters. At least five measurements of these parameters should be made throughout the purging process. The parameters shall be considered stabilized if successive measurements vary by less than 0.25 pH units, 10% of conductivity in μS, and 1°C (or 1.8°F). Continue purging until at least three times the casing volume has been removed, and the measured parameters have stabilized as indicated above. Do not exceed seven casing volumes.

7. Take a final depth to groundwater measurement and calculate the casing volume of the recharged well. Ideally, the casing volume should have recharged to at least 80% of the original measured casing volume before sampling commences. If due to slow recharge rates it is not feasible to wait for the well to fully recharge, then note this on the Gauging Data / Purge Calculation Sheet and proceed to sample following the procedure below.

Sampling

8. **After completing groundwater measurement, and checking for free product if necessary, in accordance with SounPacific's Standard Operating Procedures for Groundwater Level Measurements and Free Phase Hydrocarbon Measurements, and after purging monitoring wells as described above, groundwater samples may be collected.**

9. Slowly lower a clean, previously unused disposable bailer into the well water approximately half of the bailer length, and allow the bailer to slowly fill.

10. Withdraw the full bailer from the monitoring well and utilize the included (clean and unused) bottom-emptying device to fill the necessary sample containers, and seal the container with the included PTFE (Teflon) lined cap.

11. When filling VOAs, fill the VOA completely full, with the meniscus rising above the rim of the bottle. Carefully cap the VOA and invert it and gently tap it to determine whether air bubbles are trapped inside. If the VOA contains air bubbles, refill the VOA and repeat this step.

12. All samples shall be labeled with the Sample ID, the Sample Date, and the Sample Location or Project Number. Use an indelible marker for writing on sample labels.

13. Record all pertinent sample data on the Chain of Custody.

14. Place samples in an ice chest cooled to 4°C with ice or "blue ice". Bottles should be wrapped in bubble wrap, and VOA's should be inserted in a foam VOA holder to protect against breakage. Samples are to be kept at 4°C until delivered to the laboratory. Any transference of sample custody shall be indicated on the Chain of Custody with the appropriate signatures as necessary.

15. Utilize clean, previously unused gloves, bailer and line, and bottom-emptying device for each well sampled.

16. When finished with all sampling, close and secure all monitoring wells.

17. Leave the site cleaner than when you arrived and drive safely.

Appendix E

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GAUGING DATA/PURGE CALCULATIONS

Job Site: BOBT old office Job No.: SP-23

Event: Well developement Sampling Date: 3/10/06

WELL NO.	DIA. (in.)	DTB (ft.)	DTW (ft.)	ST (ft.)	CV (gal.)	PV (gal.)	SPL (ft.)	Bailer Loads	Notes
MW-5	2	12.94	1.93	11.01	1.75	5.25	-	-	#Sheen detected
MW-6	2	12.54	.92	11.62	2.0	6.0	-	-	
MW-7	2	12.39	1.83	10.56	1.75	5.25	-	-	
MW-8	2	12.41	1.63	10.78	1.75	5.25	-	-	
MW-9	2	12.49	.52	11.97	2.00	6.00	-	-	

Explanation:
DIA. = Well Diameter
DTB = Depth to Bottom
DTW = Depth to Water
ST = Saturated Thickness (DTB-DTW)
CV = Casing Volume (ST x cf)
PV = Purge Volume (standard 3 x CV, well development 10 x CV)
SPL = Thickness of Separate Phase Liquid

Conversion Factors (cf):
2 in. dia. well cf = 0.16 gal./ft.
4 in. dia. well cf = 0.65 gal./ft.
6 in. dia. well cf = 1.44 gal./ft.

Sampler: Jeff Gaines

SounPacific
Environmental Services
(707) 269-0884

Well Gauging/Sampling Report

Date: 3/10/2006 Project Name: BO&T Old Office Project No: SP-23 Well Number: MW-5

Analyses Tested: TPHg, BTXE, 5-oxy's by 8260B, and Total Lead by 6010B

Sample Containers: (3) HCL VOA's, (1) 250 ml poly bottle

Purge Technique: ☐ Bailer ☒ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes:
11:12	1.94		No Sheen
11:30	1.93		Sheen
	End		

Field Measurements

Time	Total Vol. Removed/(gal)	pH	Temp/(F)	Cond./(ms/cm)	DO/(mg/L)	DO/(%)	
11:52	0	6.41	53.72	.301	1.96	18.3	
11:56	1.75	6.48	53.63	.182	.87	8.1	
11:59	3.50	6.39	53.38	.250	.93	8.6	
12:03	5.25	6.36	53.78	.164	.54	5.0	

Field Scientist: Jeff Gaines

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Well Gauging/Sampling Report

Date: 3/10/2006 Project Name: BO&T Old Office Project No: SP-23 Well Number: MW-6

Analyses Tested: TPHg, BTXE, 5-oxy's by 8260B, and Total Lead by 6010B

Sample Containers: (3) HCL VOA's, (1) 250 ml poly bottle

Purge Technique: ☐ Bailer ☒ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes:
11:18	.92		sheen
11:32	.52		↓
	End		

Field Measurements

Time	Total Vol. Removed/(gal)	pH	Temp/(F)	Cond./(ms/cm)	DO/(mg/L)	DO/(%)	
12:09	0	6.49	54.62	.318	2.29	21.5	
12:12	2.0	6.53	56.35	.328	2.36	22.7	
12:15	4.0	6.65	56.80	.350	2.12	20.5	
12:19	6.0	6.64	56.62	.420	4.88	47.1	

Field Scientist: Jeff Grames

SunPacific Environmental Services
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Well Gauging/Sampling Report

Date: 3/10/2006 Project Name: BO&T Old Office Project No: SP-23 Well Number: MW-7

Analyses Tested: TPHg, BTXE, 5-oxy's by 8260B, and Total Lead by 6010B

Sample Containers: (3) HCL VOA's, (1) 250 ml poly bottle

Purge Technique: ☐ Bailer ☒ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes:
11:23	1.83		Sheen
11:34	1.83		↓
	End		

Field Measurements

Time	Total Vol. Removed/(gal)	pH	Temp/(F)	Cond./(ms/cm)	DO/(mg/L)	DO/(%)	
12:26	0	6.45	58.30	.161	.26	2.6	
12:30	1.75	6.20	56.93	.185	1.10	10.7	
12:32	3.50	6.16	57.17	.156	1.02	9.9	
12:34	5.25	6.15	57.42	.166	.93	9.1	

Field Scientist: Jeff Graves

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Well Gauging/Sampling Report

Sheet 4 of 5

Date: 3/10/2006 Project Name: BO&T Old Office Project No: SP-23 Well Number: MW-8

Analyses Tested: TPHg, BTXE, 5-oxy's by 8260B, and Total Lead by 6010B

Sample Containers: (3) HCL VOA's, (1) 250 ml poly bottle

Purge Technique: ☐ Bailer ☒ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes:
11:26	1.63		No sheen
11:36	1.63		Sheen
	End		

Field Measurements

Time	Total Vol. Removed/(gal)	pH	Temp/(F)	Cond./(ms/cm)	DO/(mg/L)	DO/(%)	
12:40	0	6.16	55.39	.116	.62	5.9	
12:42	1.75	6.25	57.45	.217	.41	4.0	
12:46	3.50	6.30	57.00	.151	.35	3.4	
12:48	5.25	6.30	57.21	.184	.40	3.9	

Field Scientist: Jeff Cramer

SounPacific
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Well Gauging/Sampling Report

Sheet 5 of 5

Date: 3/10/2006 Project Name: BO&T Old Office Project No: SP-23 Well Number: MW-9

Analyses Tested: **TPHg, BTXE, 5-oxy's by 8260B, and Total Lead by 6010B**

Sample Containers: **(3) HCL VOA's, (1) 250 ml poly bottle**

Purge Technique: ☐ Bailer ☒ Pump

Sounder Used: ☐ Water Meter ☒ Interface Meter

Water & Free Product Levels

Time	Depth to Water	Depth to Product	Notes:
11:26	4.17		Sheen
11:38	3.55		↓
12:51	.52		↓
12:58	.52		↓
	End		

Field Measurements

Time	Total Vol. Removed/(gal)	pH	Temp/(F)	Cond./(ms/cm)	DO/(mg/L)	DO/(%)	
12:55	0	6.00	57.42	.136	.63	6.2	
1:01	2.0	6.16	57.69	.132	.55	5.4	
1:05	4.0	6.07	57.76	.131	.61	6.0	
1:09	6.0	6.05	57.73	.134	.62	6.0	

Field Scientist: Jeff Grasnes